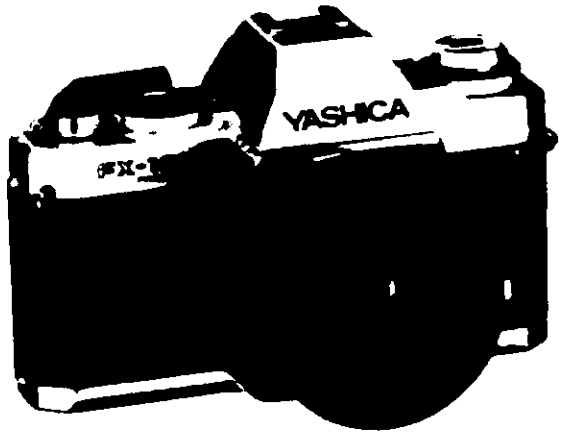
YASHICA

FX-103
PROGRAM

REPAIR MANUAL



KYOCERA CORPORATION
YASHICA DIVISION

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SPECIFICATIONS

Type	: 35㎜ focal-plane type AE single-lens reflex camera.
Image Size	: 24×36㎜
Lens Mount	: Contax/Yashica bayonet mount.
Shutter	: Electronically controlled, vertical travel, metal focal plane shutter (Quartz-oscillator timed).
Shutter Speeds	: Auto : 16 sec. to 1/1000 sec.; Manual : 1 sec to 1/1000 sec. (11 steps); X-synch ; and B (Bulb).
Flash Synchronization	: In direct X-synch only, automatically synchs at 1/100 sec. With dedicated flash unit, automatically synchs at 1/100 sec. even with shutter speed settings at 1/1000 to 1/125 sec. in the P, PH or AE modes. (Flash synchs at 1/30 sec. or slower with flash bulb units).
Self-Timer	: Quartz-timed electronic self-timer with 10 sec. delay. LED flashes during operation, accelerating 2 sec. before activating shutter. Cancellable during countdown.
Shutter Release	: Electromagnetic release system with dedicated release socket.
Exposure Control	: (1) Normal Program AE mode; (2) High-speed Program AE mode; (3) Aperture-priority AE mode; (4) Manual exposure mode; (5) TTL Auto Flash mode; and (6) Manual mode.
Metering System	: TTL center-weighted metering at full aperture (direct center-weighted metering when using CS-203 electronic flash and TLA electronic flash system), via Silicon Photo Diode (SPD) cell. Metering range from EV 3 to 18(F1.4 lens, ISO 100). Film speed range from ISO 12 to 3200. Metering switch activated by lightly touching shutter release button (automatically cutting off after 16 sec.).
Exposure Compensation	: +2EV to -2EV (control doubles as film speed dial).
Viewfinder	: Eye-level, pentaprism type. Shows 95% of picture area. 0.86 magnification (using 50㎜ lens set at infinity).
Focusing Screen	: Horizontal split-image/microprism collar on matte screen.
Viewfinder Display	: LED display : Shutter Speed LEDs (indicating correct exposure, over-and under-exposure), program AE mode indicator, dedicated flash mark. Shutter speed scale panel.

Film Advance	: Lever operated. 130-degree winding angle (20-degree stand-off angle); with provision for using with the Contax 139 Winder II
Film Rewind	: Type using rewind release button and film rewind crank.
Exposure Counter	: Auto resetting, additive type.
Camera Back	: Opens by lifting film rewind knob; detachable type ; provided with memo holder.
Power Source	: Uses two 1.55 V silver oxide (SR44) batteries, or two 1.5 V alkaline (LA44) batteries.
Battery Check	: Self-timer/battery check LED used to check battery condition.
Dimensions	: 138(W)×90(H)×54(D)▬.
Weight	: 460grams (without batteries).

1. DISASSEMBLING OF THE EXTERIOR PARTS.

(1) Top Cover;

Remove the respective parts ①～⑮ shown in (Fig 1) in numerical order.

〔Note for disassembling〕

a) Turn the winding Lever (161650) on the harlfway, and take off the Winding Lever Set Screw (61824522) from the bottom side of the Winding Lever.

b) Winding Lever Plate Set Screw (66001071) is counter clockwise screw.

c) Be careful of the losse because S.Dial Shaft Stopper (152407) is easily removed.

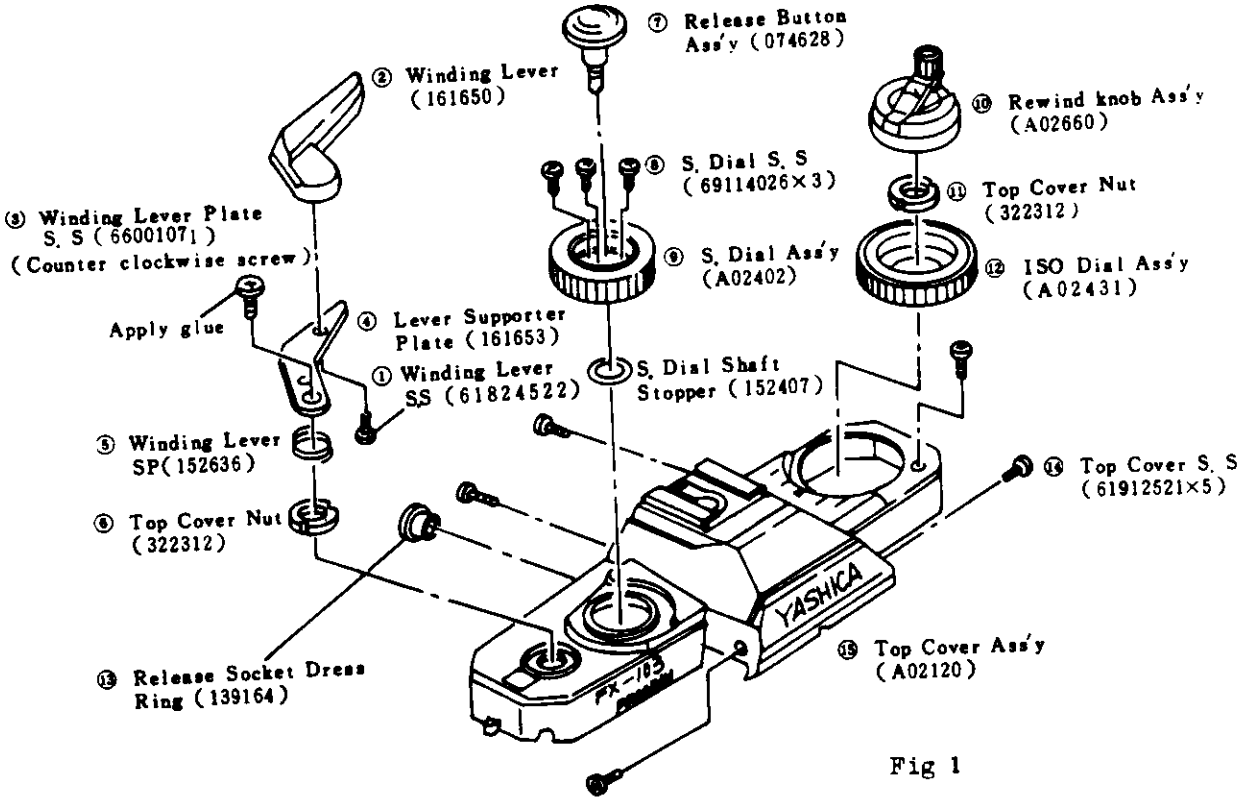

⑦ Release Button Ass'y (074628)
② Winding Lever (161650)
⑩ Rewind knob Ass'y (A02660)
⑧ S. Dial S. S (69114026×3)
⑪ Top Cover Nut (322312)
③ Winding Lever Plate S. S (66001071) (Counter clockwise screw)
⑨ S. Dial Ass'y (A02402)
⑫ ISO Dial Ass'y (A02431)
Apply glue
④ Lever Supporter Plate (161653)
① Winding Lever SS (61824522)
S. Dial Shaft Stopper (152407)
⑤ Winding Lever SP(152636)
⑭ Top Cover S. S (61912521×5)
⑥ Top Cover Nut (322312)
YASHICA
⑮ Top Cover Ass'y (A02120)
⑬ Release Socket Dress Ring (139164)

Fig 1

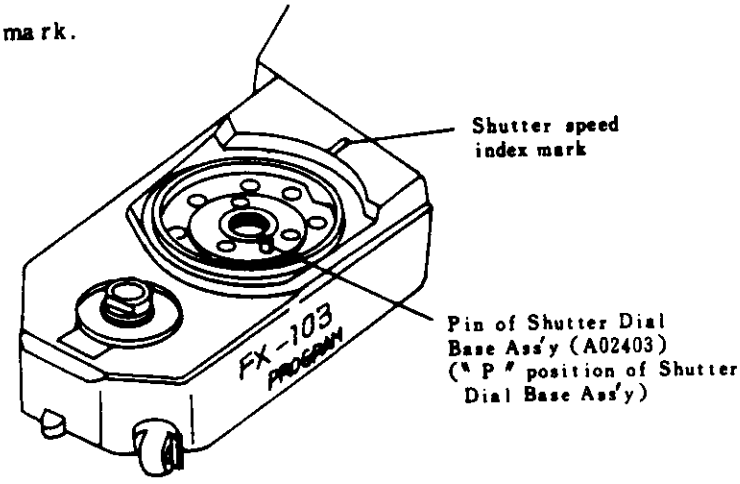
〔Note for reassembling Top Cover Nut〕

a) Do not overtighten the Top Cover Nut (322312) on the ISO Dial Ass'y (A02431), because the Rewind knob is not turning smoothly.
The Rewind Knob must turn smooth in the rewinding direction with no remarkable rattling or creak whether or not film is set in position.

〔Note for reassembling S.Dial Ass'y〕

a) Set the "P" position of Shutter Dial Base Ass'y (A02403) as shown in (Fig 2) and the "P" letter of S.Dial Ass'y (A02402) aligns with the shutter speed index mark.

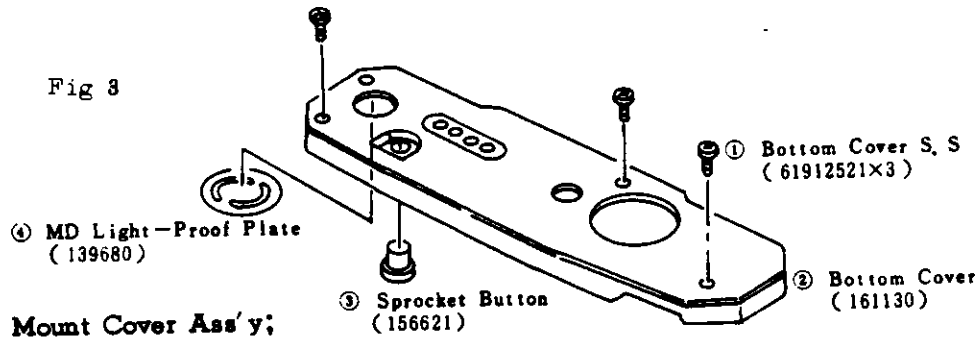
Fig 2



(2) Bottom Cover;

a) Remove the respective parts ①～④ shown in (Fig 3) in numerical order.

Fig 3



(3) Mount Cover Ass'y;

a) Remove the respective parts ①～⑦ shown in (Fig 4) in numerical order.

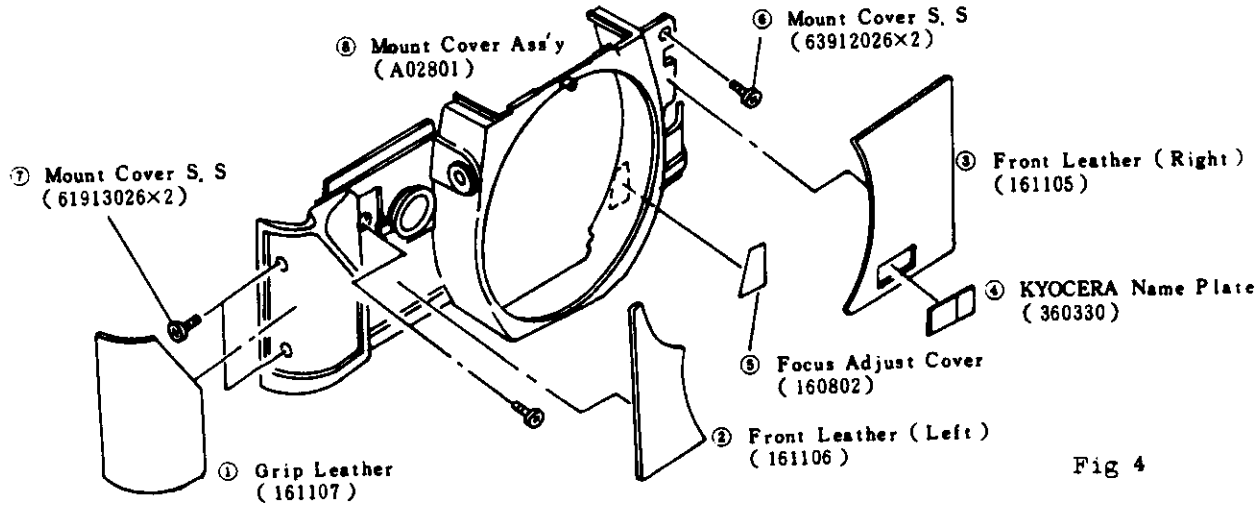

⑧ Mount Cover Ass'y (A02801)
⑥ Mount Cover S. S (63912026×2)
⑦ Mount Cover S. S (61913026×2)
③ Front Leather (Right) (161105)
④ KYOCERA Name Plate (360330)
⑤ Focus Adjust Cover (160802)
② Front Leather (Left) (161106)
① Grip Leather (161107)

Fig 4

b) Unsolder White, Red, Black, Purple and Yellow Green lead wires (from Self Base Ass'y (A02507)).

c) Remove the Mount Cover Ass'y (A02801).

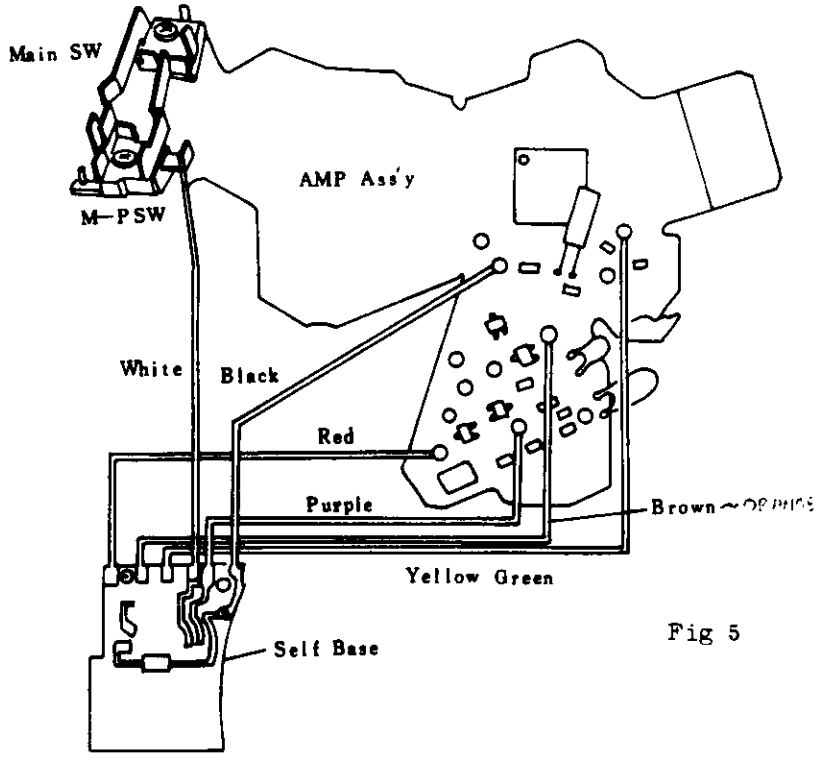


Fig 5

[Note for reassembling Front Leather and Grip Leather]

These are the selfstic type, they are reusable.

But mix 5 parts of Ever Grip to 5 parts of ketone and apply the mixture on to the camera body of corner surface where the leather is to be covered and dry it for two or three minutes.

[Forming of lead wires]

Form the lead wires as shown below before reassembling the Mount Cover Ass'y.

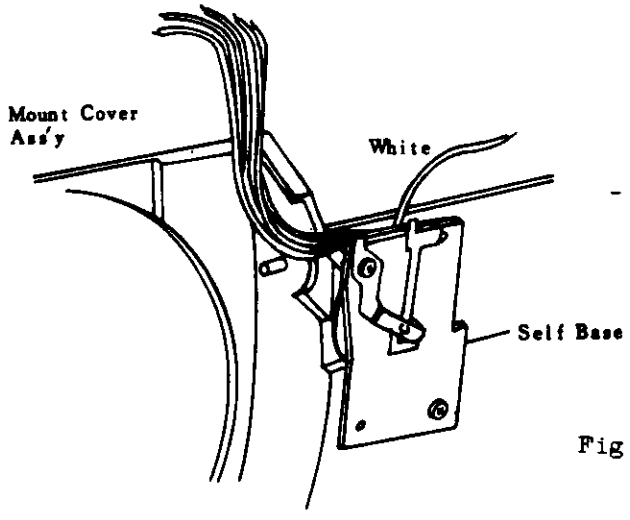


Fig 6

[Note for reassembling Mount Cover Ass'y]

a) When installing Mount Cover Ass'y, caution not to pinch lead wires.

2. DISASSEMBLING OF THE MIRROR BOX Ass'y (W/AMP Ass'y and S. Base Plate) from the camera body.

(1) Disassembling of the Mirror Box Ass'y (W/AMP Ass'y and S. Base Plate) from the camera body.

a) Unsolder Green lead wire (from Release Socket) on the AMP Ass'y.
b) Unsolder Gray (shielded wire), Yellow and Black lead wires (from Shutter) on the AMP Ass'y.
c) Unsolder Green, Blue, White lead wires (from AMP Ass'y) and white, Blue lead wires (from AVR) on the ISO Base.
d) Unsolder White lead wire (from Battery Case) on the M-P SW and Red lead wire (from Battery Case) on the AMP Ass'y.
e) Unsolder Pink and Brown lead wires (from D.LED) on the AMP.Ass'v.
f) Unsolder Orange lead wire (from TF-SW Base) on the AMP.Ass'y.
g) Unsolder Green, Purple lead wires (from Connector Base) on the AMP.Ass'y.

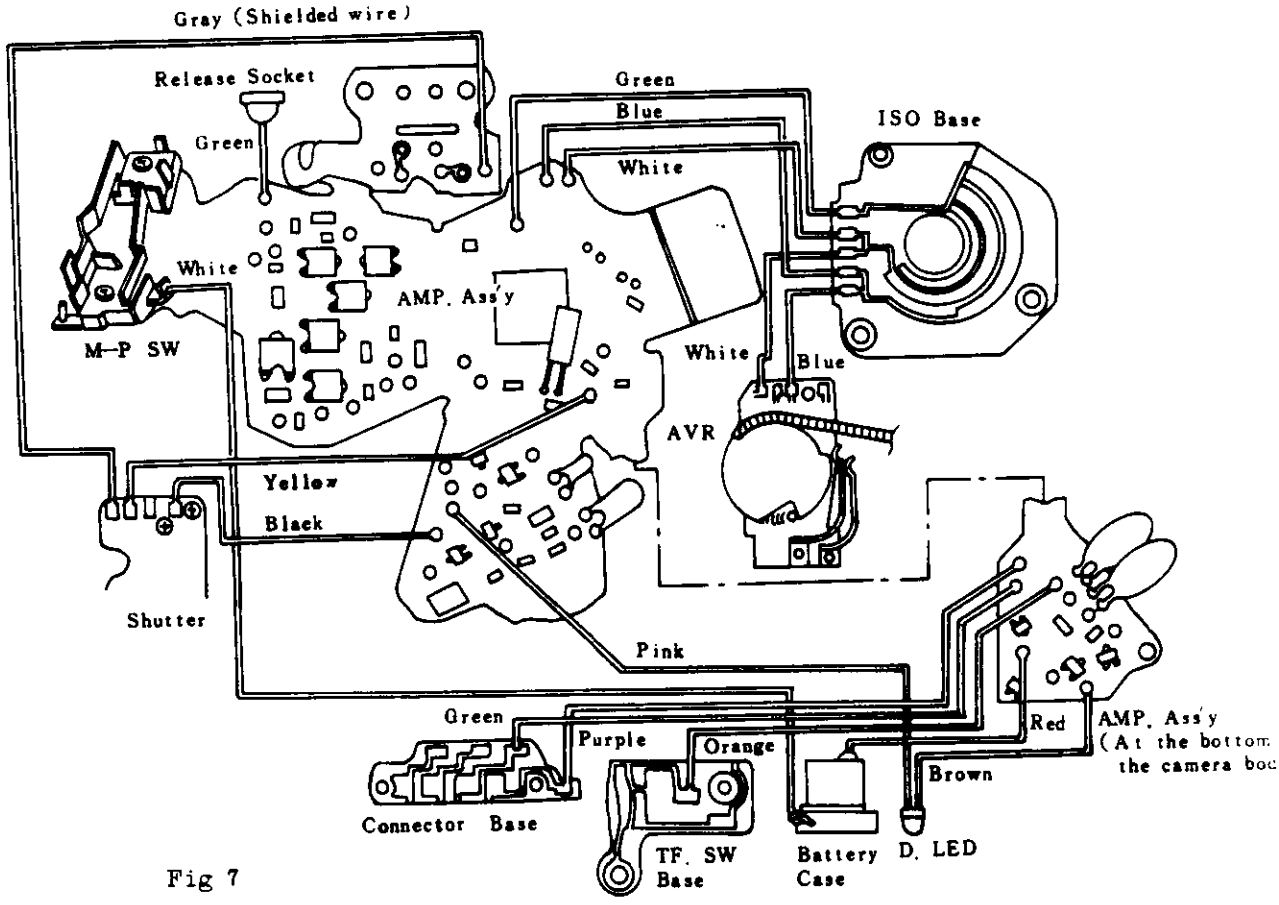
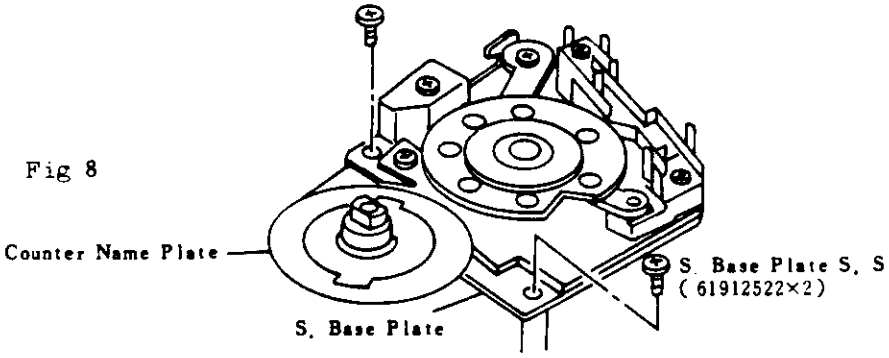


Fig 7

h) Remove two S.Base Plate Set Screws (61912522×2).

Fig 8



i) Remove AMP Ass'y Set Screw (63912522) and Washer (66442025) at the bottom of the camera body.

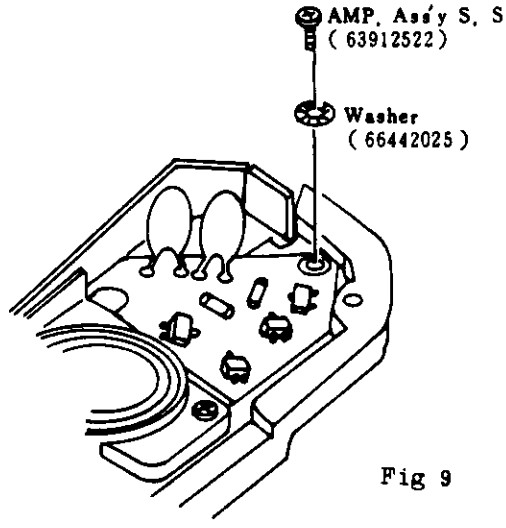


Fig 9

j) Remove two Eye Piece Frame Set Screws (61913026×2) and Eye Piece Frame (139168).

k) Remove four Mirror Box Set Screws (61927026×2)(66001060×2) and carefully pull out the Mirror Box Ass'y from the camera body (Mirror Box Ass'y, will be removed together with AMP.Ass'y and S.Base Plate).
See (Fig 10).

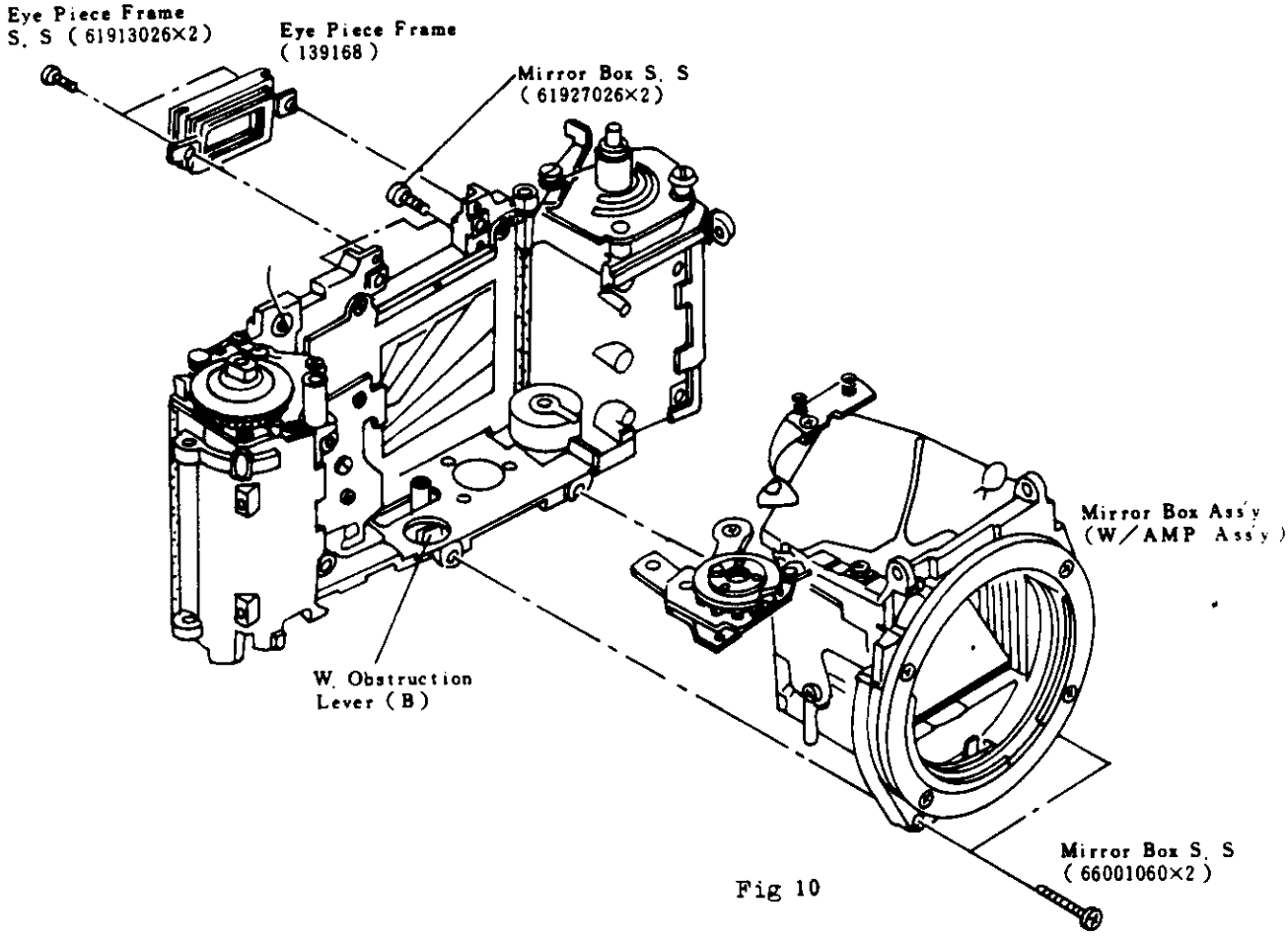


Fig 10

[Directions for attaching the Mirror Box Ass'y into the camera body]

a) Chargethe Shutter and Mirror Box Ass'y.
b) Mount the Mirror Box Parallel with front side of the camera body and Pin of ACL-1 (Fig 12) at the front of W.Obstruction Lever (B) (Fig 10).
c) Check the lead wires for their held conditions.
d) Tighten four Mirror Box Set Screws (66001060×2)(61927026×2).

Note : When mount the Mirror Box, caution not to pinch lead wires.

3. DISASSEMBLING AND ADJUSTMENT OF THE MIRROR BOX.

(1) Disassembling of the AC Base Plate Ass'y from the Mirror Box.

(At the bottom of Mirror Box)

a) Peel off the M.Box Dress Plate (159702)

b) Remove three AC Base Plate S.S (61912028×3).

c) Remove the AC Base Plate Ass'y (A02708) from the Mirror Box.

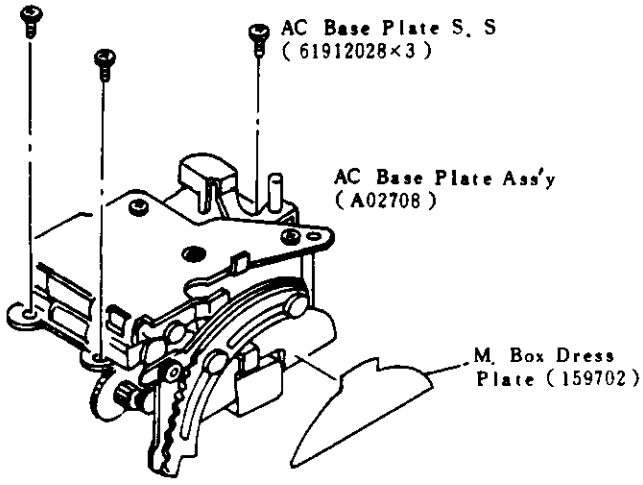


Fig 11

(2) Clearance of AC Claw and AC Ratchet Wheel.

- o Does not touch with AC Claw and AC Ratchet Wheel.
- o Clearance is between about 0.2~0.4 mm.
- o Adjust clearance by turning the AC-Mg adjust screw.
- o If clearance of AC Claw and AC Ratchet is narrow, always program mode when set the AE mode or Manual exposure mode.
- o If clearance of AC Claw and AC Ratchet is wide, program exposure should be under.

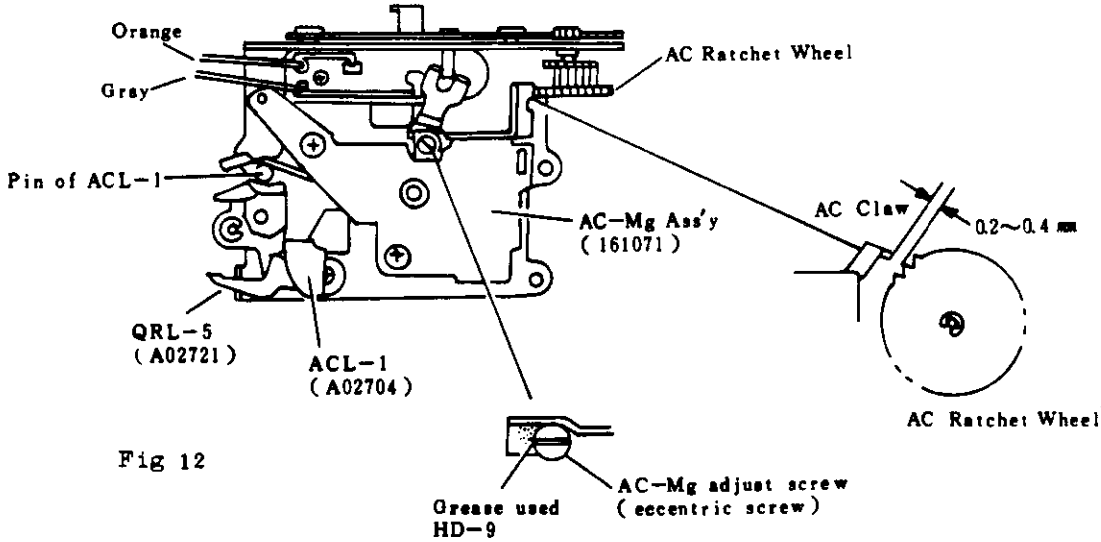


Fig 12

(3) Reassembly and adjustment of Mup-Mg (Mirror up Mg).

Position of Mup-Mg (159748).

After loosening Mup-Mg Set Screws (66001077×2) adjust position of Mup-Mg (159748) as illustrated below.

- o If clearance of MCL-6 (A02722) and Mup Movable Plate Lever (A02751) is zero, incorrect shutter speed or shutter runs but does not open at all modes.
- o If clearance of MCL-6 (A02722) and Mup Movable Plate Lever (A02751) is wide, the Mirror does not flip up.

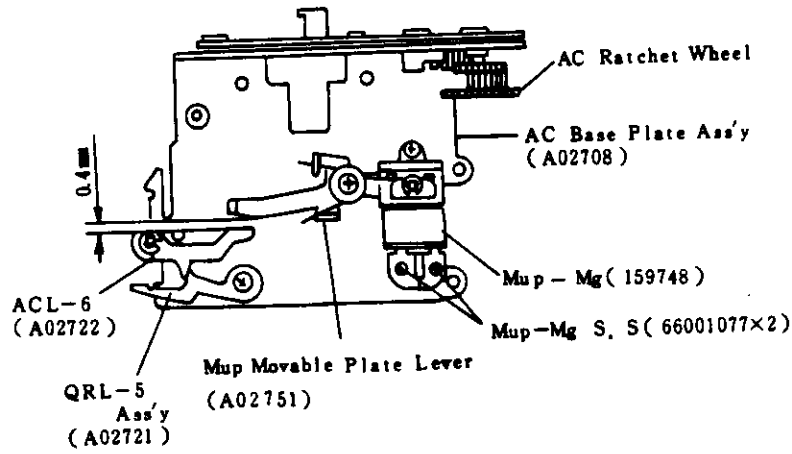


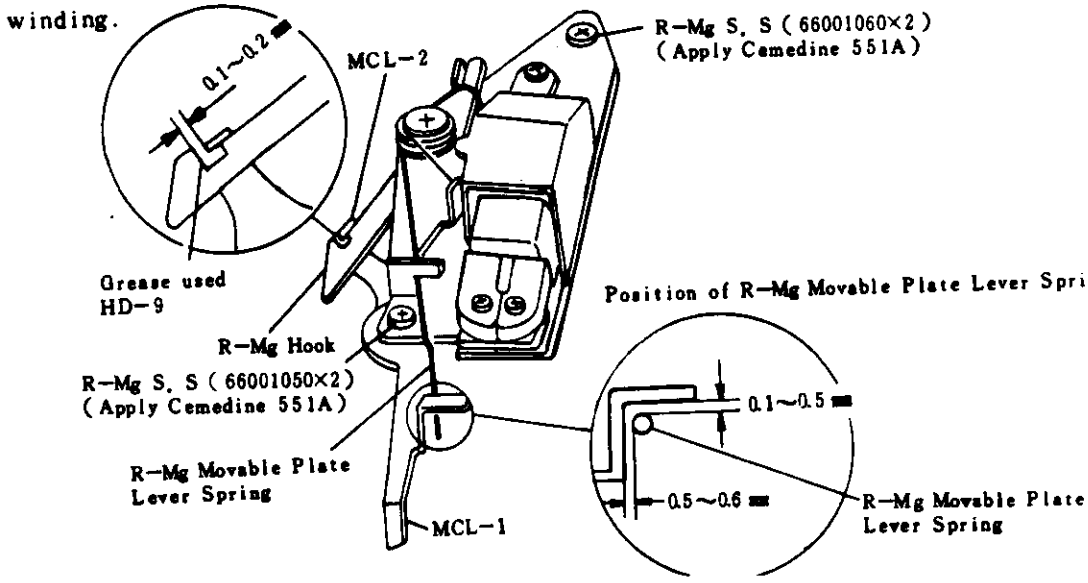
Fig 13

(4) Reassembly and adjustment of R-Mg.

Position of R-Mg (159075).

After loosening R-Mg Set Screws (66001050×2) adjust position of R-Mg (159075) as illustrated below.

- o If clearance of R-Mg Hook and MCL-2 is zero, shutter does not operate, the Mirror has stopped part way.
- o If clearance of R-Mg Hook and MCL-2 is wide, shutter trips itself after winding.



Note :

a) Never use grease or oil except specified grease near R-Mg, Mup-Mg and AC Mg.

b) R-Mg, Mup-Mg and AC-Mg has permanent magnet, so it has to be cleaned out of soil, iron powder or dust. If repulsion or attraction is improper, clean the Magnet.

(5) Assembling and Adjustment of AVR Voltage.

a) Push Pin of F.Stop Connecting Ring in the direction of the arrow until stops. (F1.2 aperture position). (Fig 15)

b) Align the notched of AVR Contact with standard line as shown in (Fig 16), and while maintaining this position carefully engage the AVR Gear to the Gear of F. Stop Connecting Ring on the Mirror Box Ass'y. And temporarily, tighten two AVR Base Set Screws (63912028×2).

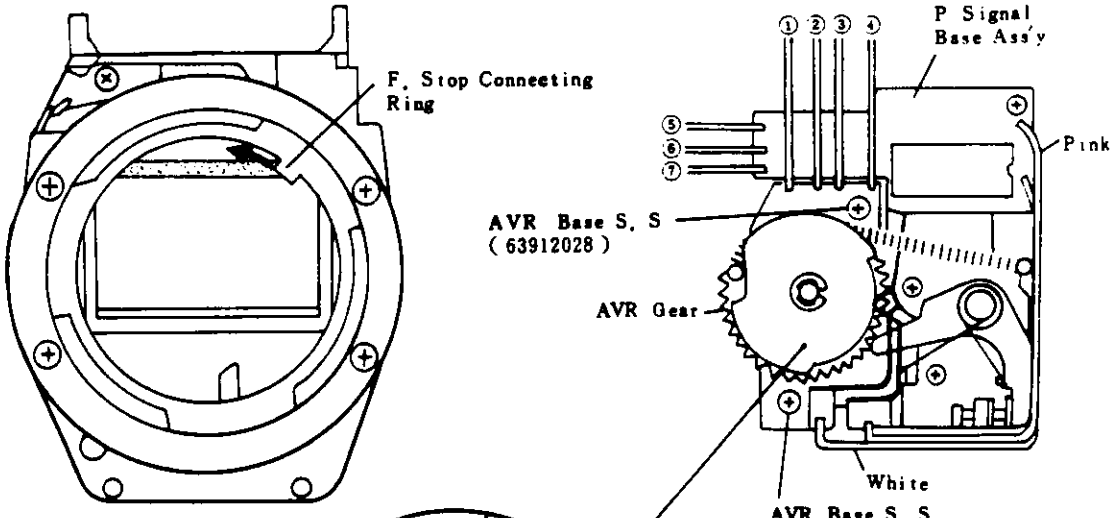


Fig 15

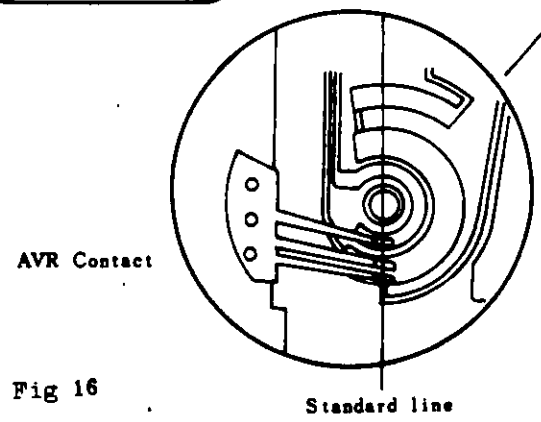


Fig 16

① White lead wire (Vs)
② Yellow lead wire (M)
③ Blue lead wire (V2)
④ Black lead wire (P)
⑤ Gray lead wire (P)
⑥ Orange lead wire (P-LED)
⑦ Red lead wire (Vc)

c) Supply about 3.6 volts from Regulated D.C Power Supply.

d) Connect (−) of digital multimeter to (−) of Regulated D.C Power Supply.

e) Connect (−) of Regulated D.C Power Supply to White lead wire (Vs) of AVR Base, and (+) of Regulated D.C Power Supply to Blue lead wire (Vr) of AVR Base.

f) Connect (+) of digital multimeter to Black lead wire (P) and then read the voltage, This voltage is standard voltage of Program.
The voltage should be 170～190mv.

g) Remove (+) of digital multimeter from Black lead wire (P) and then connect (+) of digital multimeter to Yellow lead wire (M).

h) Set the ML 35/2.8 Lens into the Mirror Box mount and the aperture setting is F 2.8.

Note : you can use ML 24/2.8, ML 28/2.8, ML 135/2.8, Tessar 45/2.8 Distagon 35/2.8, Distagon 25/2.8 and sonnar 85/2.8 etc. Lens.
But do not use ML 50/1.4 ML 50/1.7, ML 50/1.9, ML 50/2.0, Distagon 28/2.0, Distagon 28/2.8, Planar 50/1.4, Planar 50/1.7 and 85/1.4 Lens.

i) The reading shull be plus 18mv from the first valve of the program standard voltage (170～190mv).
For example, program standard voltage is 170mv, the reading shall be 1880mv.
Adjust by shifting the AVR Base and tighten two AVR Base Set Screws (63912028).

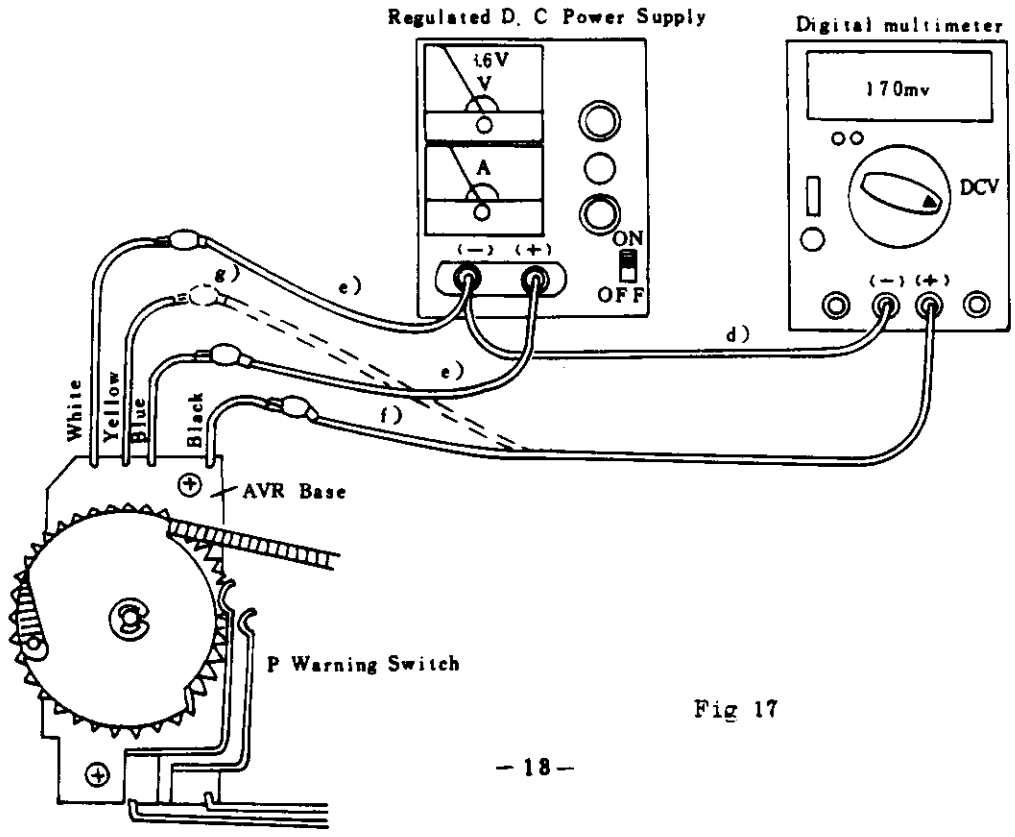


Fig 17

(3) Reassembly and adjustment of Mup-Mg (Mirror up Mg).

Position of Mup-Mg (159748).

After loosening Mup-Mg Set Screws (66001077×2) adjust position of Mup Mg (159748) as illustrated below.

- o If clearance of MCL-6 (A02722) and Mup Movable Plate Lever (A02751) is zero, incorrect shutter speed or shutter runs but does not open at all modes.
- o If clearance of MCL-6 (A02722) and Mup Movable Plate Lever (A02751) is wide, the Mirror does not flip up.

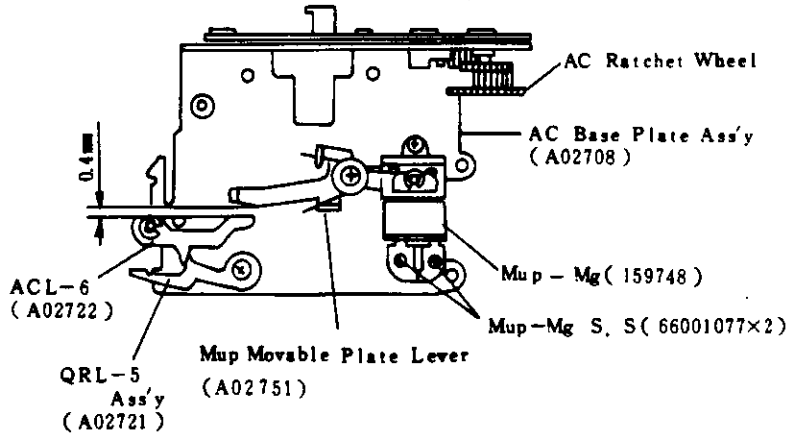


Fig 13

(4) Reassmbly and adjustment of R-Mg.

Position of R-Mg (159075).

After loosening R-Mg Set Screws (66001050×2) adjust position of R-Mg (159075) as illustrated below.

- o If clearance of R-Mg Hook and MCL-2 is zero, shutter does not operate, the Mirror has stopped part way.
- o If clearance of R-Mg Hook and MCL-2 is wide, shutter trips itself after winding.

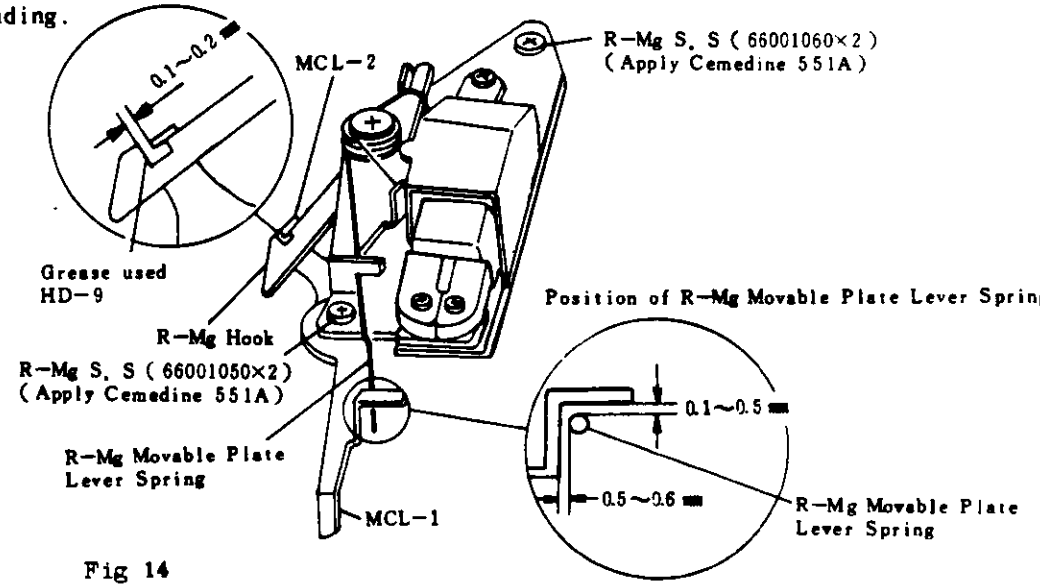


Fig 14

4. DISASSEMBLING AND ADJUSTMENT OF THE SHUTTER

(1) Disassembling of the Shutter from the camera body.

a) Remove three Shutter Set Screws (61824522×2)(61913529).

b) Pull off the Shutter (156201) upward.

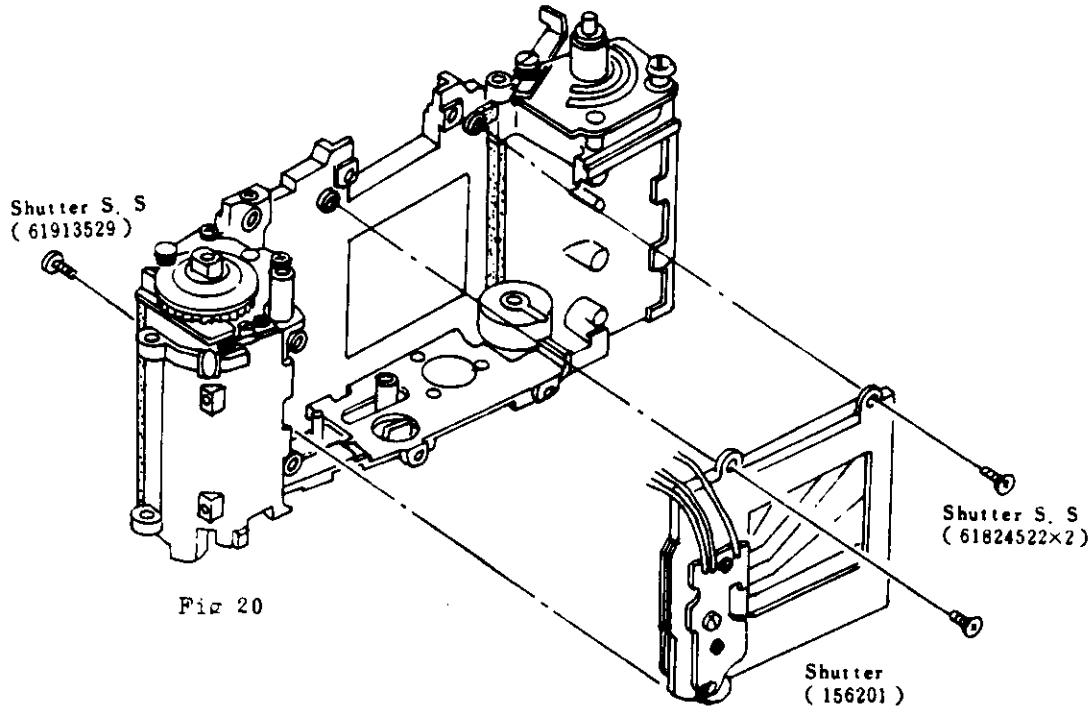
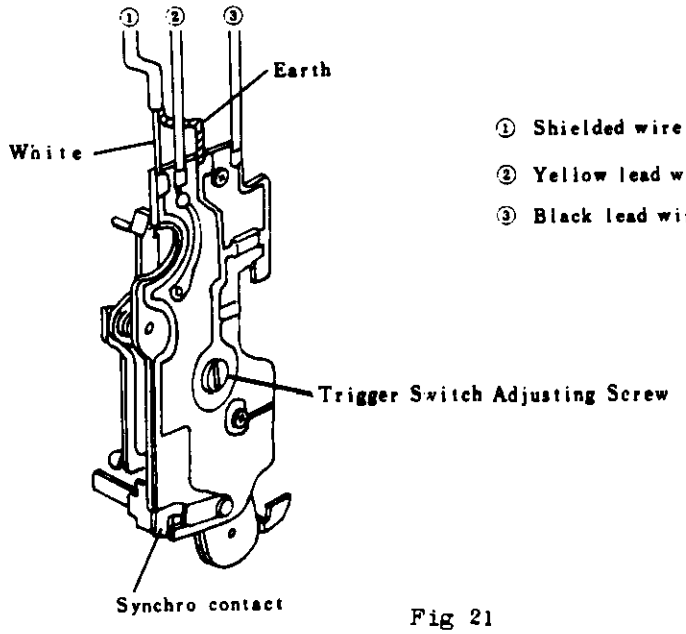


Fig 20



① Shielded wire (from Synchro contact)

② Yellow lead wire (from Trigger Switch)

③ Black lead wire (from Shutter Mg)

Fig 21

(2) Shutter Curtain Travel Speed.

a) The Shutter Curtain Travel Speed should be within 7.0ms.

(3) Manual Shutter Speed.

a) The shutter speed (1/1000 sec.) can be adjusted by turning the Trigger Switch Adjusting Screw. (Fig 20)

Shutter Speed Tolerance Limits.

	Max.	Standard	Min.
1/1	1231	1000	812
1/2	614	500	406
1/4	308	250	203
1/8	154	125	102
1/15	76.9	62.5	50.8
1/30	38.5	31.3	25.4
1/60	19.24	15.63	12.69
1/125	9.95	7.81	6.12
1/250	4.98	3.91	3.17
1/500	2.48	1.95	1.52
1/1000	1.38	0.98	0.69
X	11.52	10.75	10.03

(m sec.)

(4) Synchro contact.

a) Time Lag

The synchro switch must be turned ON within a time range from immediately after the 1 st curtain is fully opened till 3.2ms after the 2nd curtain starts closing.

A - Slit : 0.3 ~ 0.9m sec

B - Slit : 3.2m sec or more.

Set Shutter Dial at "X" position and check with the shutter tester.

b) Synchro contact efficieney

60% or more (TIME INT. 1ms)

c) Synchro insulation resistance

30MΩ or more (DC 500V)

5. DISASSEMBLING AND REASSEMBLING OF THE WINDING MECHANISM

(1) Disassembling of the Winding Mechanism.

(At the bottom of the camera body)

a) Remove the respective parts ① ~ ⑲ shown in (Fig 22) in numerical order.

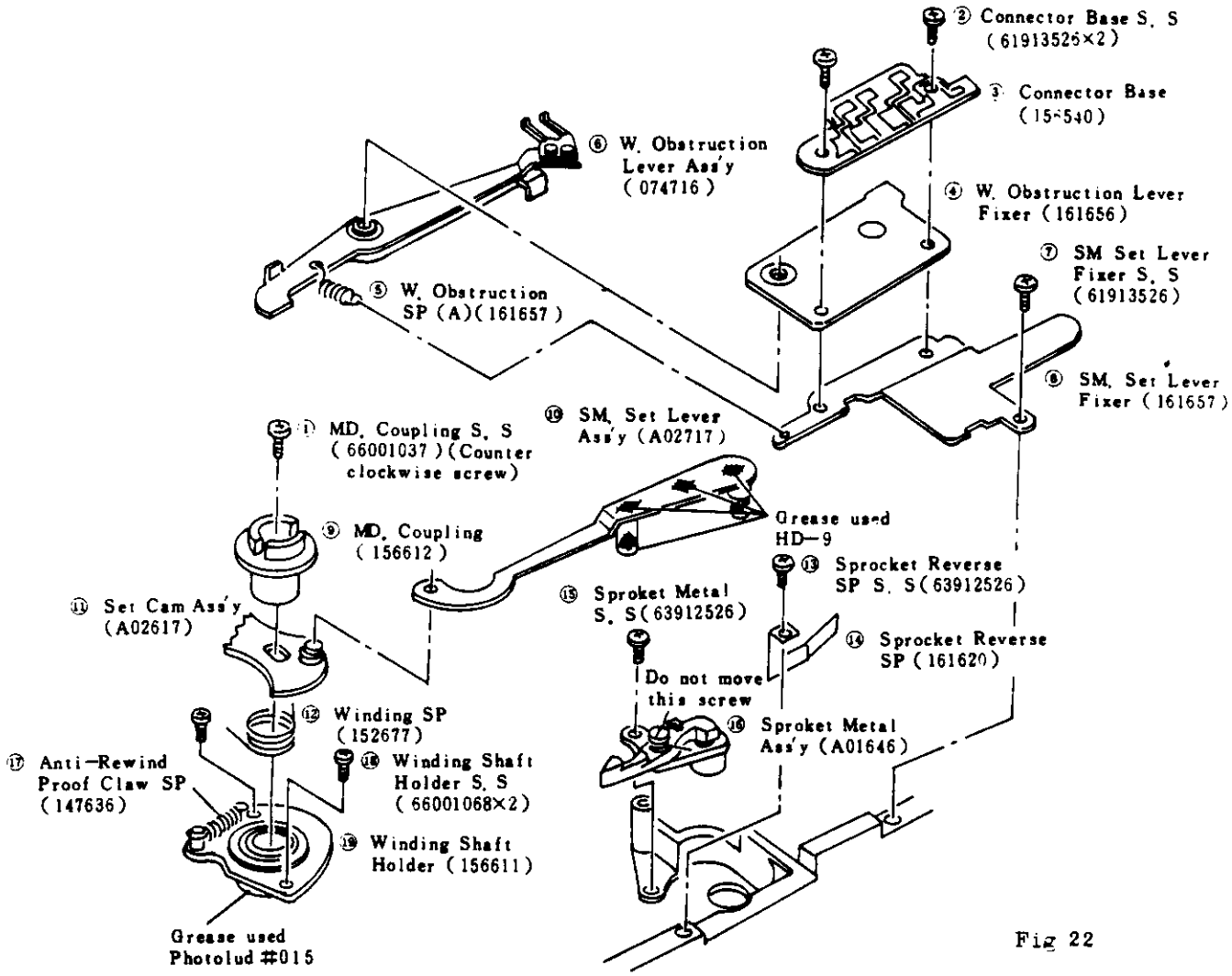

② Connector Base S. S (61913526×2)
③ Connector Base (156540)
⑥ W. Obstruction Lever Ass'y (074716)
④ W. Obstruction Lever Fixer (161656)
⑦ SM Set Lever Fixer S. S (61913526)
⑤ W. Obstruction SP (A)(161657)
⑧ SM. Set Lever Fixer (161657)
⑲ SM. Set Lever Ass'y (A02717)
① MD. Coupling S. S (66001037)(Counter clockwise screw)
⑨ MD. Coupling (156612)
Grease used HD-9
⑬ Sprocket Reverse SP S. S(63912526)
⑮ Sproket Metal S. S(63912526)
⑪ Set Cam Ass'y (A02617)
⑭ Sprocket Reverse SP (161620)
Do not move this screw
⑫ Winding SP (152677)
⑯ Sproket Metal Ass'y (A01646)
⑰ Anti-Rewind Proof Claw SP (147636)
⑱ Winding Shaft Holder S. S (66001068×2)
⑩ Winding Shaft Holder (156611)
Grease used Photolud #015

Fig 22

〔Note for disassembling〕

a) MD Coupling S.S (66001037) is counter clockwise screw.

b) The MD.Coupling (156612) and Set Cam Plate Ass'y (A02617) are pressed in against the Winding Shaft Ass'y (069615).

c) Take care not to deform the contact of W.Obstruction Lever Ass'y (074716) during the repair.

(At the top of the camera body)

b) Remove the respective parts ① ~ ④ shown in (Fig 23) in numerical order.

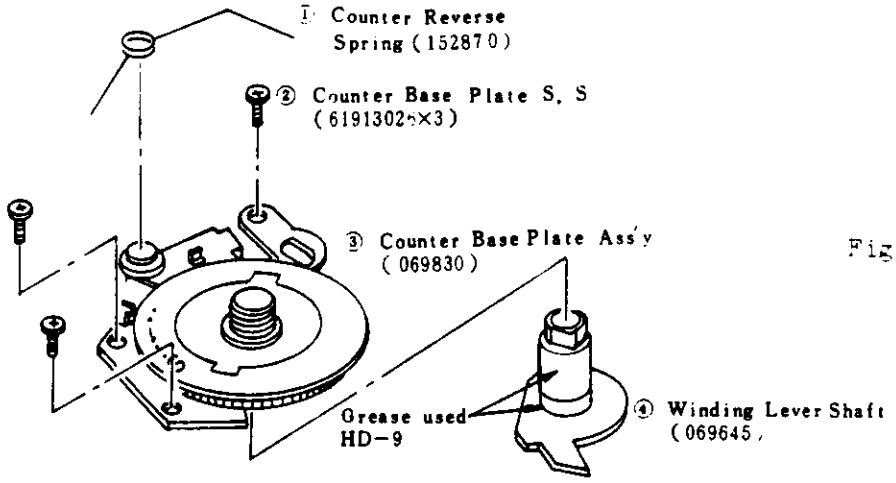

① Counter Reverse Spring (152870)
② Counter Base Plate S. S (6191302□×3)
③ Counter Base Plate Ass'y (069830)
Grease used HD-9
④ Winding Lever Shaft (069645)

Fig 23

c) Remove the respective parts ① ~ ⑦ shown in (Fig 24) in numerical order.

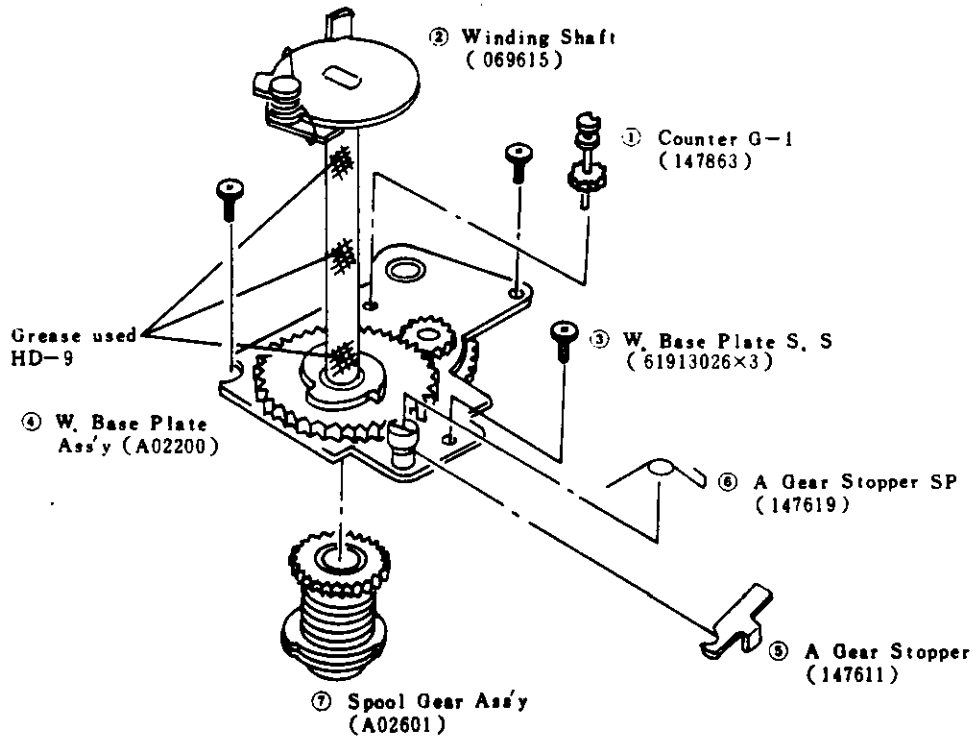

② Winding Shaft (069615)
① Counter G-1 (147863)
Grease used HD-9
③ W. Base Plate S. S (61913026×3)
④ W. Base Plate Ass'y (A02200)
⑥ A Gear Stopper SP (147619)
⑤ A Gear Stopper (147611)
⑦ Spool Gear Ass'y (A02601)

Fig 24

d) Remove the respective parts ① ~ ⑤ shown in (Fig 25) in numerical order.

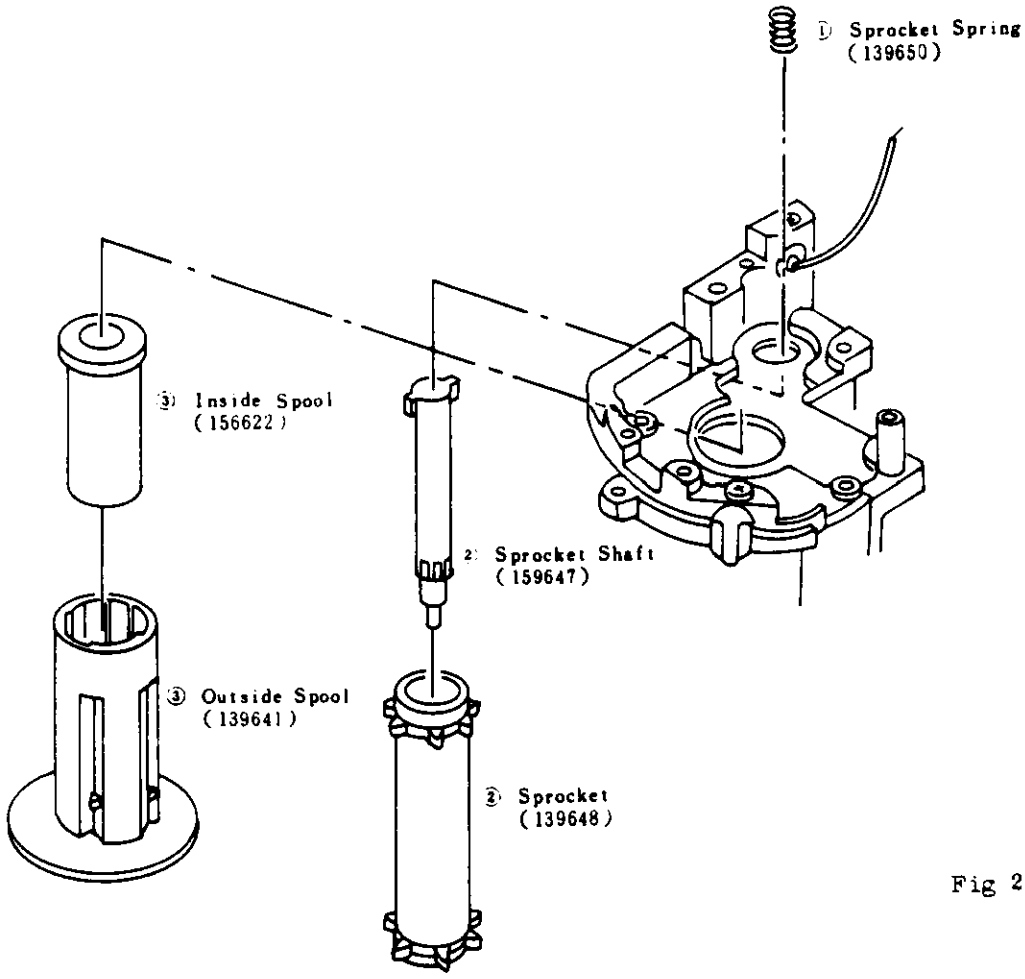


Fig 25

(2) Reassembling of the Winding Mechanism.

(At the top of the camera body)

a) Install Ouside Spool (139641) with Inside Spool (156622) in to the camera body and insert the Spool Gear Ass'y (A02601) into the Outside Spool.

b) Install Sprocket Shaft (159647) in Sprocket (156648) in the position as shown (Fig 26) and set in into the camera body while mark of sprocket Shaft is face of film rail plane.

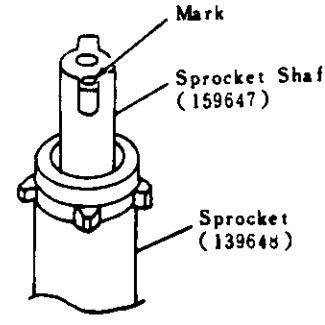


Fig 26

c) Temporarily, bonding bond paper tape on side of Sprocket as shown in (Fig 27).
And install Sprocket Spring (139650) in the Sprocket.

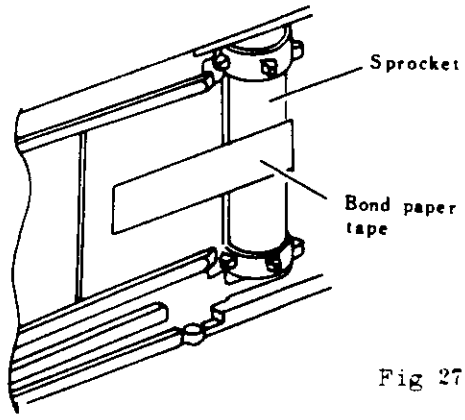


Fig 27

d) Make position with Sprocket Gear as shown in (Fig 28) and while maintaining Sprocket position, carefully install winding Base Plate Ass'y (A02200) into the camera body. And tighten three Winding Base Plate Set Screws (61913026×3).

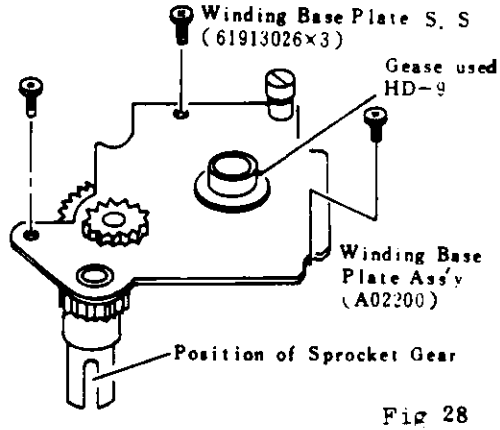


Fig 28

e) Install A Gear (147603) in position shown in (Fig 29).
Install A Gear Stopper Spring (147619) and A Gear Stopper (147611).
Check for gap (0.1～0.5 mm) between A Gear Stopper and cam of A Gear.
If not engage, make correction by adjusting A Gear.
Hook A Gear Stopper Spring with A Gear Stopper as show in (Fig 29).

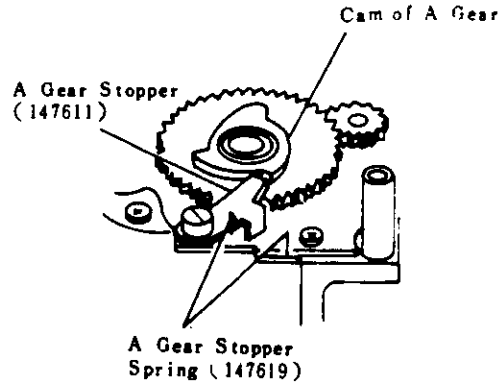


Fig 29

f) Remove Rachet Claw Spring (147625) from Winding Shaft Ass'y (069615) Insert the Winding Shaft Ass'y in the position as shown in (Fig 30).

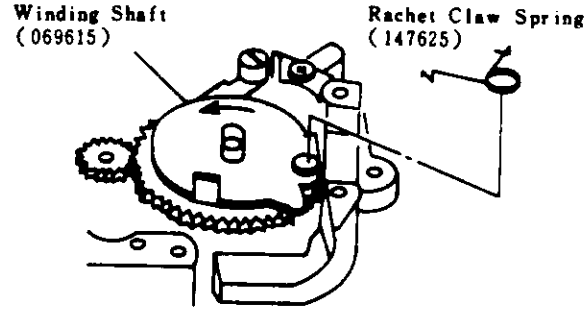


Fig 30

(At the bottom of the camera body)

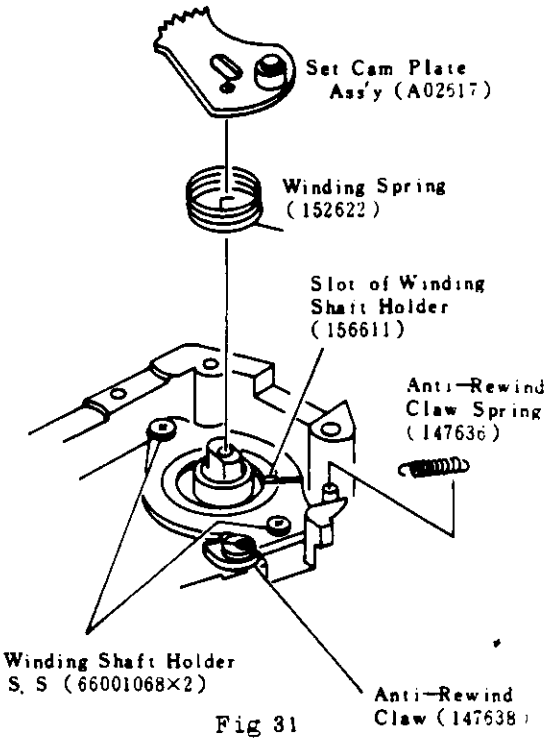
g) Install Winding Shaft Holder (156611) with two Set Screws (66001068×2).

h) Install Winding Spring (152622) in slot of Winding Shaft Holder.

i) Install Set Cam Plate Ass'y (A02617) as shown in (Fig 31) and push it in.

〔Note for reassembling〕

The Set Cam Plate Ass'y is pressed in against the Winding Shaft. So it too hard to push the Set Cam Plate Ass'y. Temporally, install MD Coupling (156612) and tighten the MD Coupling Set Screw (66001037)(counter clockwise screw). Set Cam Plate must inserting very far. Remove the MD Coupling Set Screw and MD Coupling.


Set Cam Plate Ass'y (A02617)
Winding Spring (152622)
Slot of Winding Shaft Holder (156611)
Anti-Rewind Claw Spring (147636)
Winding Shaft Holder S. S (66001068×2)
Anti-Rewind Claw (147638)
Fig 31

j) Hook Anti-Rewind Claw spring (147636) with Anti-Rewind Claw (147638) and post of Winding Shaft Holder.

k) Turn the Winding Shaft Ass'y in the direction of arrow as shown in (Fig 30) and hold the Set Cam Plate by the Anti-Rewind Claw on the harlfway.

l) Install Sprocket Metal Ass'y (A01646) with Sprocket Metal Set Screw (63912526).
Install Sprocket Reverse Spring (161620) with Sprocket Reverse Spring Set Screw (63912526) and hook OR Stop Lever Spring (161673) with OR Stop Lever as shown in (Fig 34).

m) Install SM Set Lever Ass'y (A02712) and MD Coupling (156612) with MD Coupling Set Screw (66001037).

n) Install SM Set Lever Fixer (161657) with SM Set Lever Fixer Set Screw (61913526) and turn the Winding Shaft Ass'y completely.

o) Hook Rachet Claw Spring (147625) with Winding Shaft Ass'y as shown in (Fig 30). And Remove Bond paper tape from Sprocket.

(3) Reassembling of Counter Base Plate Ass'y.

a) Make the position which A Gear Stopper (147611) is engaged with the cam of A Gear (147603) as shown in (Fig 29).

b) Install Winding Lever Shaft Ass'y (069645).

c) Install and position the notched section of Counter G-1 (147863) opposite to the Winding Lever Shaft as shown in (Fig 32).

Note : If the position of Counter G-1 is not correc, it skips two frames or no frame.

d) Install Counter Base Plate Ass'y (069830) with three Counter Base Plate Set Screws (61913026×3)

e) Install and hook Counter Reverse Spring (152870).

Note : If the shape of Counter Reverse Spring is changed, the counter skips two frames or no frame.

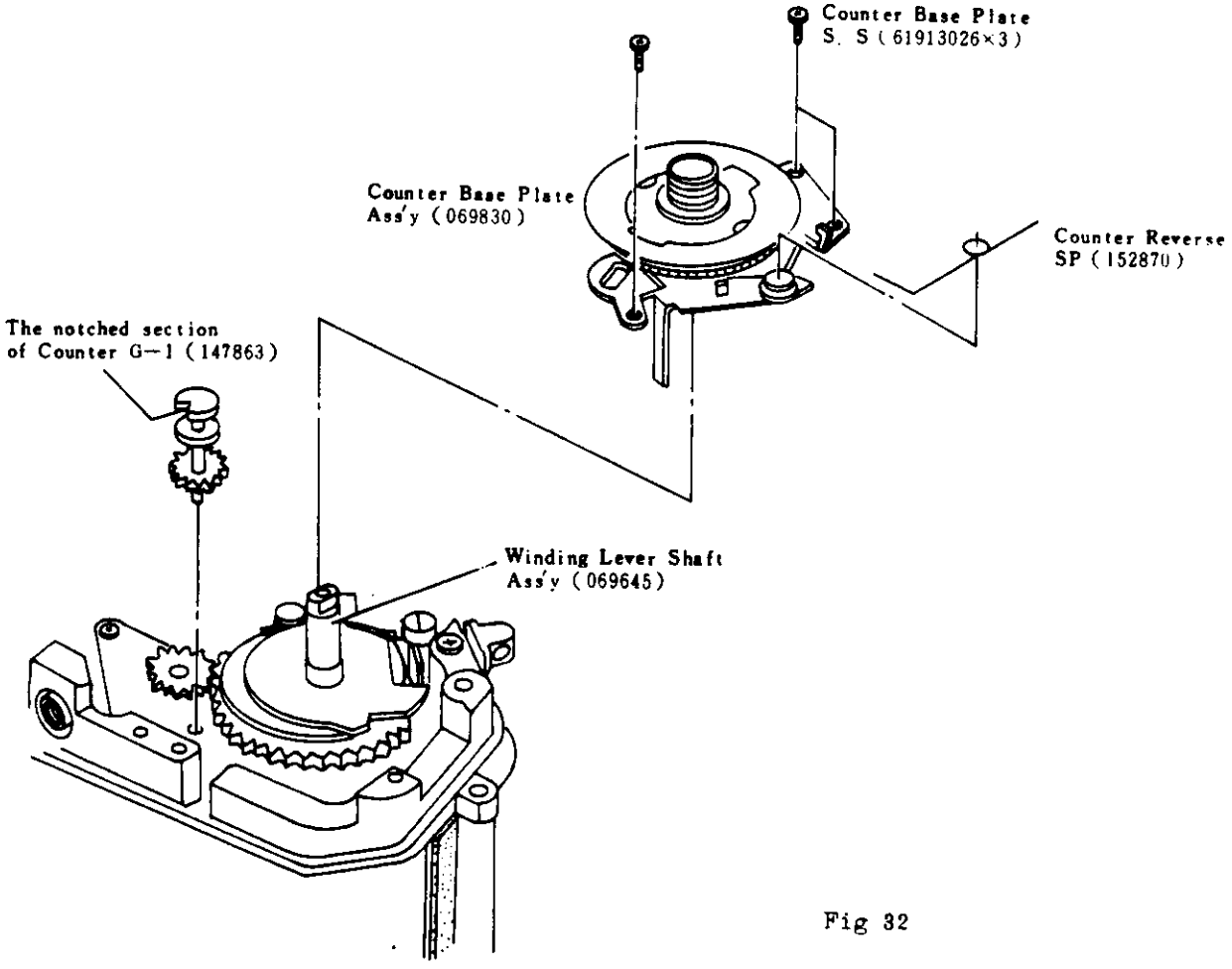


Fig 32

(4) Winding Mechanism Adjustment.

* The following adjustment and checking is performed after winding mechanism is completely assembled.

(A) Sprocket Shaft mechanism Adjustment at the bottom of the camera body.

Sprocket Shaft has to be locked and Sprocket has to be quite free by pushing Sprocket Shaft.
Free turn of Sprocket has be nimble without friction or scratch.
Attach your finger shightly on side of Sprocket, Sprocket Shaft has to be released with turning of Winding Lever. And Sporocket should never turn freely.
These tests should be repeated several times.
Adjustment is done with Sprocket Reverse Spring (161620)

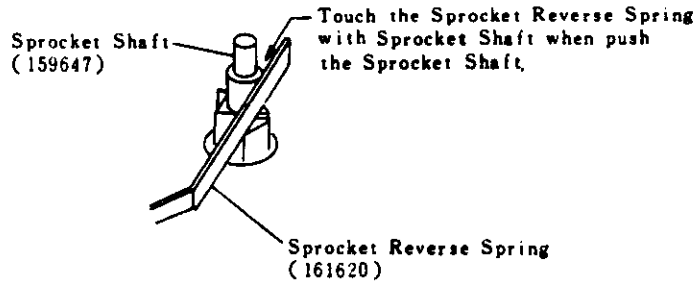


Fig 33

(B) OR Stop Lever Adjustment at the bottom of the camera body.

When turn the Winding Lever, OR Stop Lever must be engaged with cut part of Sprocket Shaft and make sure without rattling. After return of Winding Lever, is has to be released from cut part of Sprocket Shaft.
Adjustment is done with OR Stop Lever Shaft.
In the event OR Stop Lever is not engaged with cut part of Sprocket Shaft, when turn the Winding Lever completely, reassenble winding mechanism.
Refer to page 19 ~ 20.

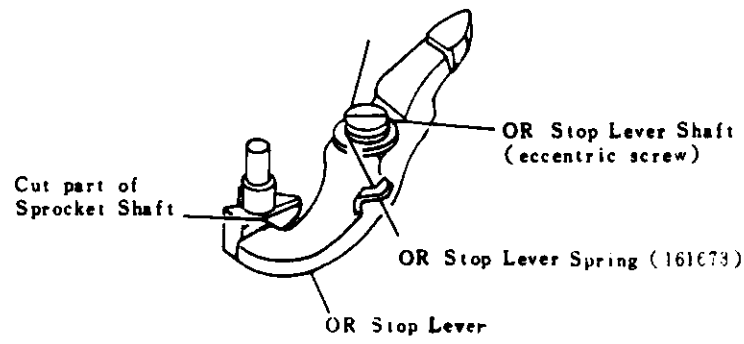


Fig 34

(C) A Gear Stopper Adjustment at the top of camera body.

Adjust the engagement of A Gear Stopper in less than 0.2 mm when winding is finished under the Sprocket is tensed.
Check over three time the engagement of A Gear Stopper.
Adjustment is done with turning of Eccentric Post.

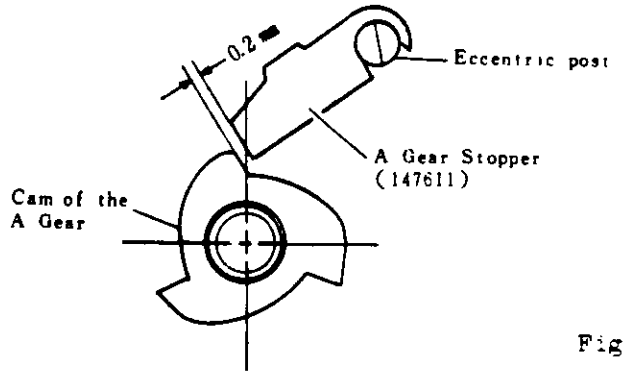


Fig 35

(D) Anti-Rewind Claw release Adjustment at the bottom of camera body.

When wind with tension on Sprocket, A Gear Stopper (147611) should be engage with cam of A Gear, then Anti-Rewind Claw (147638) must be released from the Gear of Set Cam Plate Ass'y (A02617).
Adjustment is done with turning of Anti-Rewind Claw Collar (147637).

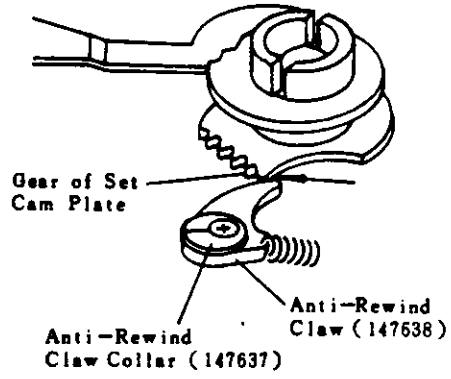


Fig 36

(5) Adjustment of TF-Switch.

a) After winding, return the Winding Lever slowly and check that the point of the Winding Obstruction Lever Ass'y is located at position Ⓑ of the MD. Coupling when the contact part of the Winding Obstrction Lever Ass'y contact is located at posision Ⓐ as shown in (Fig 37).

b) The position Ⓐ is the TF-SW Base part of the pattern, so it is available switch ON or switch OFF.

c) Adjust the position of TF-SW Base so that you may be able to release the Shutter surely when the point of the Winding Obstruction Lever Ass'y is located at position Ⓑ

Note :

a) Never change the shape of the contact of Winding Obstruction and be careful of the contact pressure especialy.

b) Be careful of the dirt of the contact and the TF-SW Base.

c) The Winding Obstruction Lever must be operated surely without shaking or sticking.

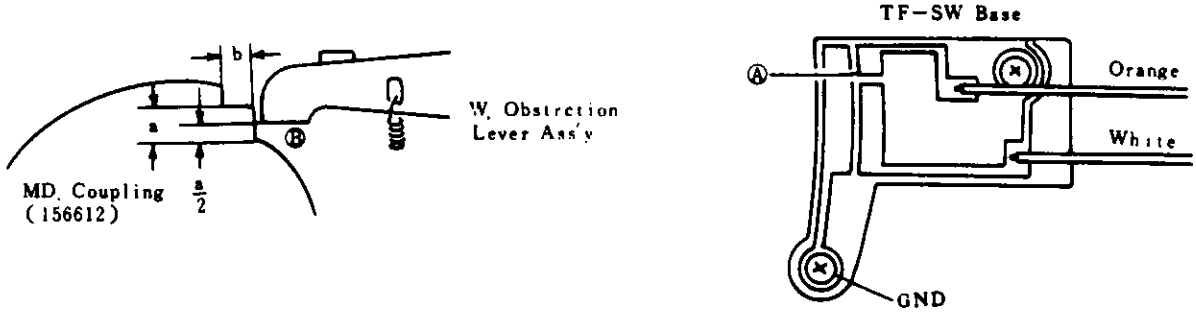


Fig 37

6 REPLACEMENT PROCEDURE OF AMP ASS'Y
(Voltage Check & Adjustment)

(1) Disassembling of AMP Ass'y.

a) Disassemble the exteriro parts.
(See "1. DISASSEMBLING OF THE EXTERIOR PARTS" Page 4 ~ 11.

b) Unsolder 24 lead wires on AMP Ass'y.

c) Unsolder Black and Yellow lead wires (from AVR) on Main Switch.

d) Unsolder White lead wire (from Batter case) on M-P Switch.

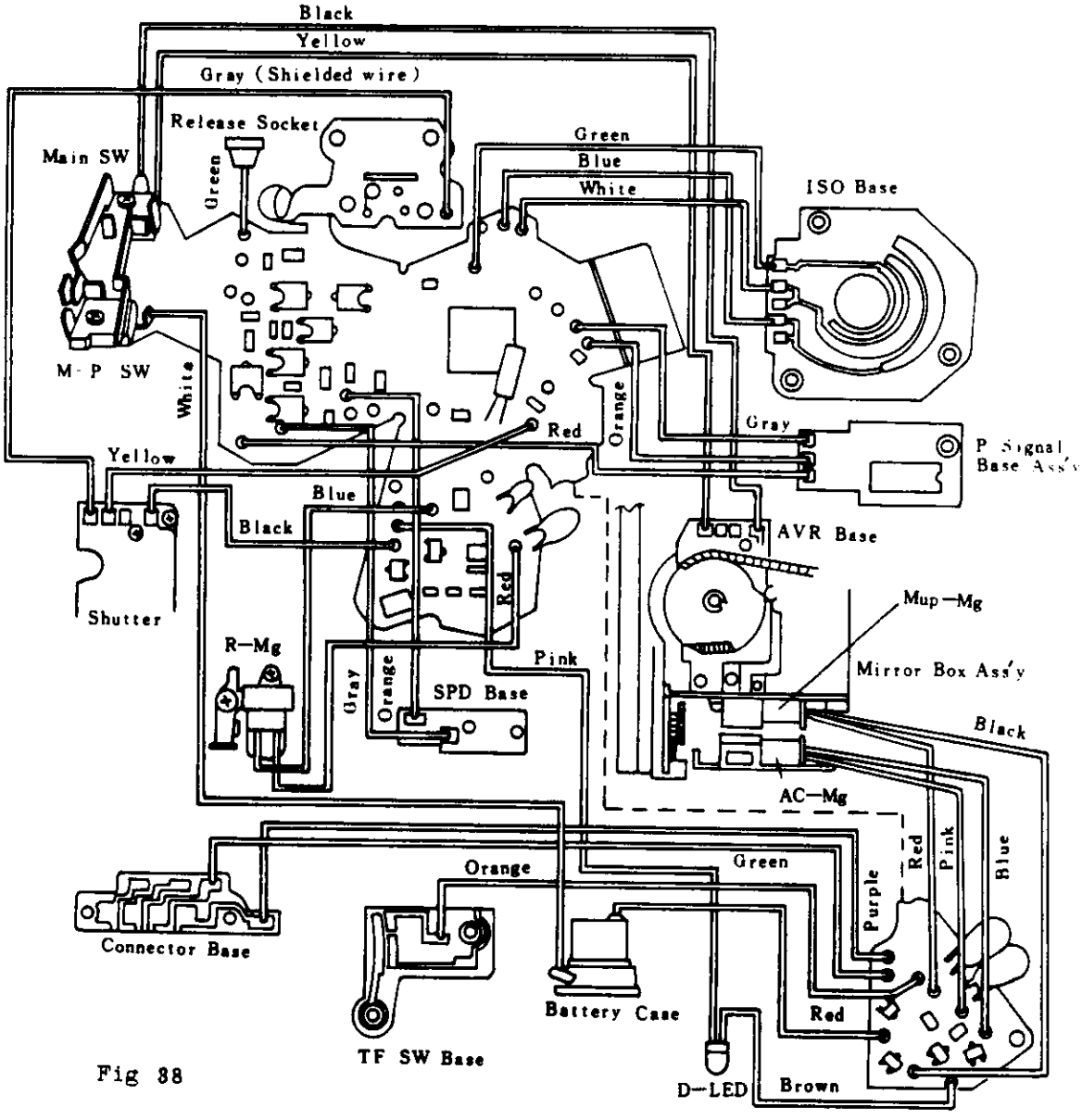


Fig 38

e) Remove the respective parts ① ~ ④ shown in (Fig 39) in numerical order.

f) Remove AMP Ass'y Set Screw (63912522) and Washer (66442025) at the bottom of the camera body. See (Fig 9).

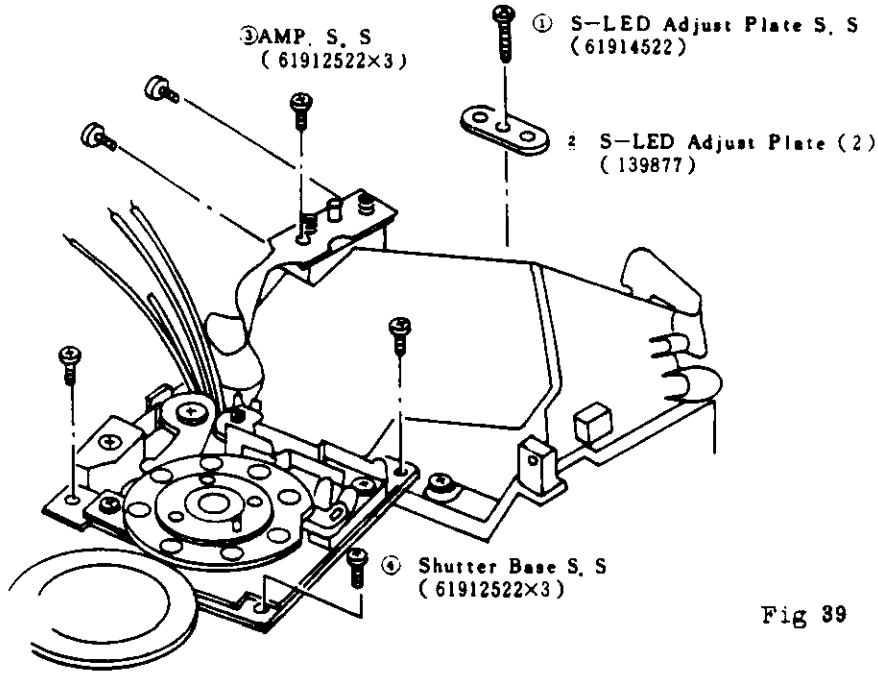


Fig 39

(2) S-LED Position Adjustment.

a) The position of LED Shall be adjusted so that all LED's from "B" to "P" and "⚡" can normally be seen. When the eye in at the center of eyepiece when replacing AMP, be sure to make this adjustment.

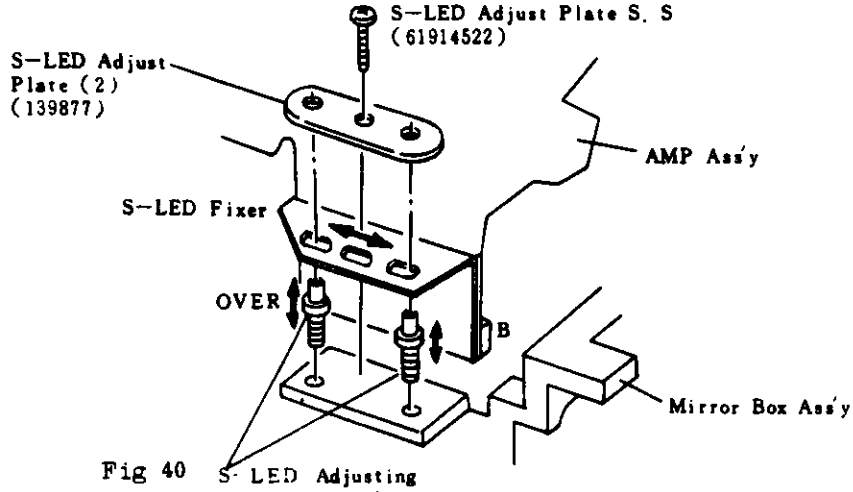


Fig 40

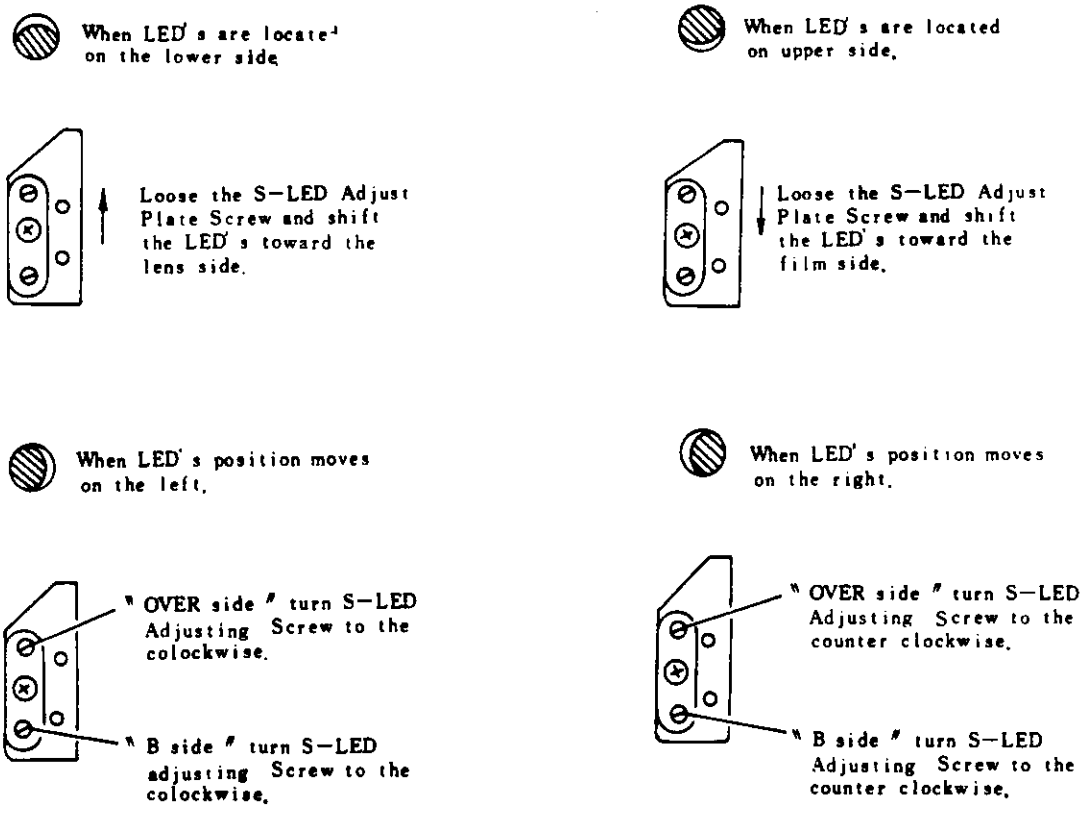

When LED's are located on the lower side.
When LED's are located on upper side.
Loose the S—LED Adjust Plate Screw and shift the LED's toward the lens side.
Loose the S—LED Adjust Plate Screw and shift the LED's toward the film side.
When LED's position moves on the left.
When LED's position moves on the right.
" OVER side " turn S—LED Adjusting Screw to the colockwise.
" B side " turn S—LED adjusting Screw to the colockwise.
" OVER side " turn S—LED Adjusting Screw to the counter clockwise.
" B side " turn S—LED Adjusting Screw to the counter clockwise.

Fig 41

Note : The three screws must be locked with glue after adjustment.

(3) Reassembling of Main Switch and M—P Switch.

a) Install Shutter Click Lever Spring (161410).

b) Install Shutter Click Lever Ass'y (074302) with Shutter Dial Base Ass'y (A02403) and tighten Shutter Click Lever Set Screw (66001033).

c) Hook Shutter Click Lever Spring with protrusion of Shutter Click Lever and Shutter Base Plate.

d) Set Shutter Dial Base Ass'y in OFF position as shown in (Fig 42).

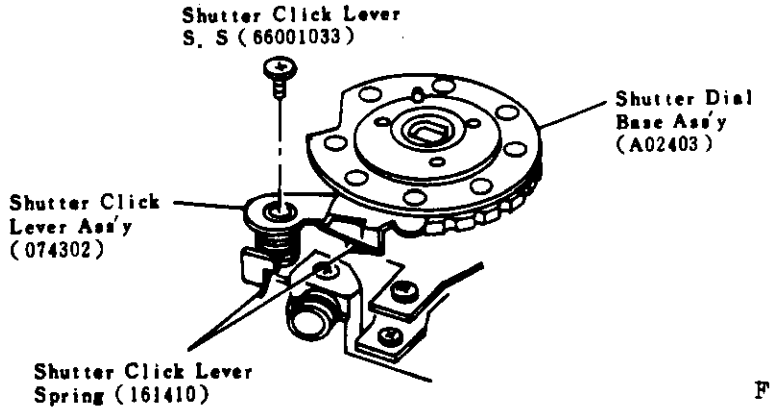

Shutter Click Lever S. S (66001033)
Shutter Dial Base Ass'y (A02403)
Shutter Click Lever Ass'y (074302)
Shutter Click Lever Spring (161410)

Fig 42

e) Fit M-P Lever (161416) into the pin of Main Switch (161411) as shown in (Fig 43), and install M-P Lever together with Main Switch with the tweezers as shown in (Fig 44).

f) Install small pin on the bottom of Main Switch aligning hole of ISO Base and tighten Main Switch Set Screw (61914522).

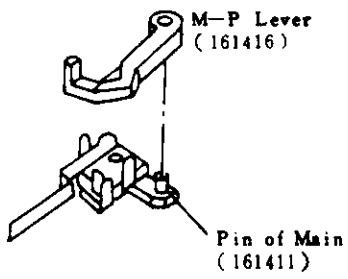
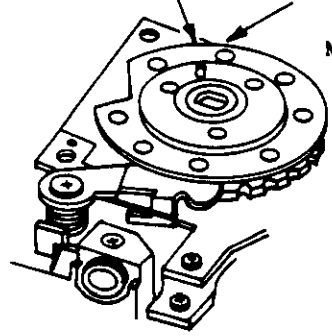


Fig 43



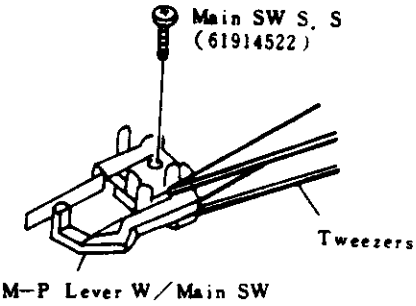


Fig 44

g) Install Main Switch Contact (1)(161412) and small pin on the bottom of M-P Change Switch (161417) aligning hole of ISO Base and tighten M-P Change Switch Set Screw (61914522).

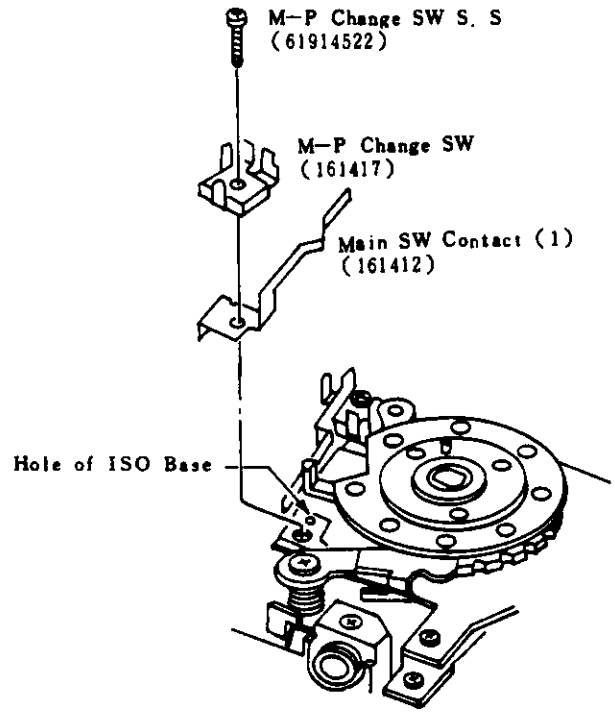


Fig 45

<Check M-P Switch and Main Switch>

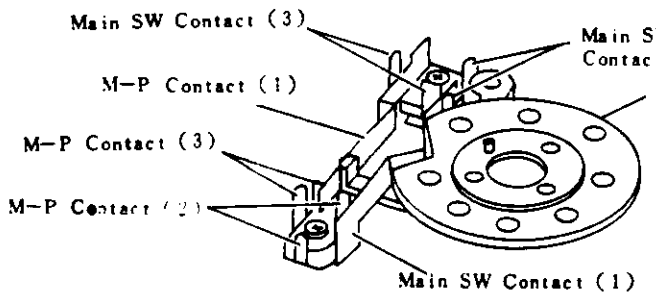


Fig 46

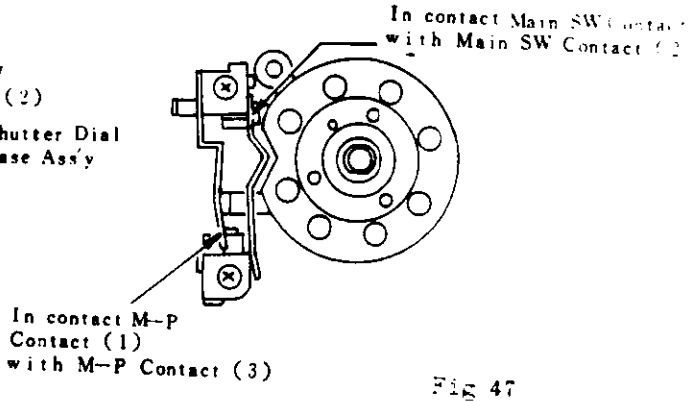
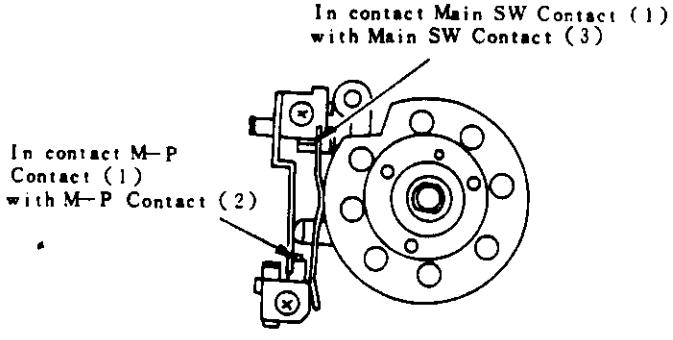


Fig 47

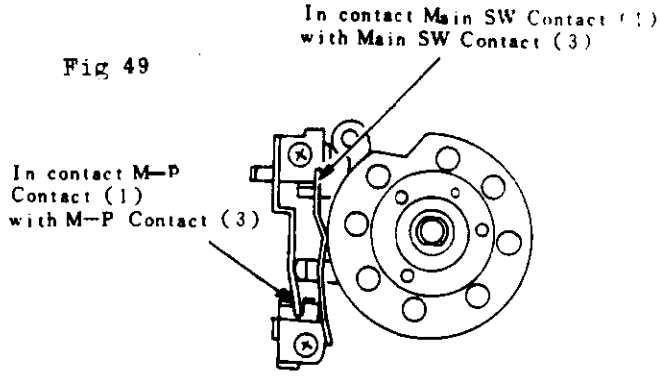
① Main Switch is in "OFF" position.

Fig 48



② Shutter Dial Base Ass'y is in "P" (Normal Program Mode) and "HP" (High-Speed Program Mode) position

Fig 49



③ Shutter Dial Base Ass'y is in "AE" Mode and Manual Shutter Speed position.

(4)Voltage Check and Adjustment.

(Offset Voltage, Standard Voltage, Standard Voltage for Flash Exposure and Battery Check)

[Information]

The principal voltages for balancnig the electrnic circuit including voltages mentioned have been correctly adjusted already when the Amplifier Ass'y has been assembled in the factory, spare parts as well.

Preparation before checking.

a) Use the digital multimeter that inpedance is more than 10MΩ.

b) Without Lens.

c) Supply about 2.8 volts from Regulated D.C Power Supply, and insert dummy battery to the camera body.

d) Temporarily assemble ISO Dial Ass'y (A02431), Top Cover Nut (3[illegible]) and setting the ISO 100.

e) Charge the Shutter, Shutter Dial Base Ass'y is in "AE" Mode position and release button is preesed partway. ····· S-LED "ON" (it workes for 1[illegible] sec.).

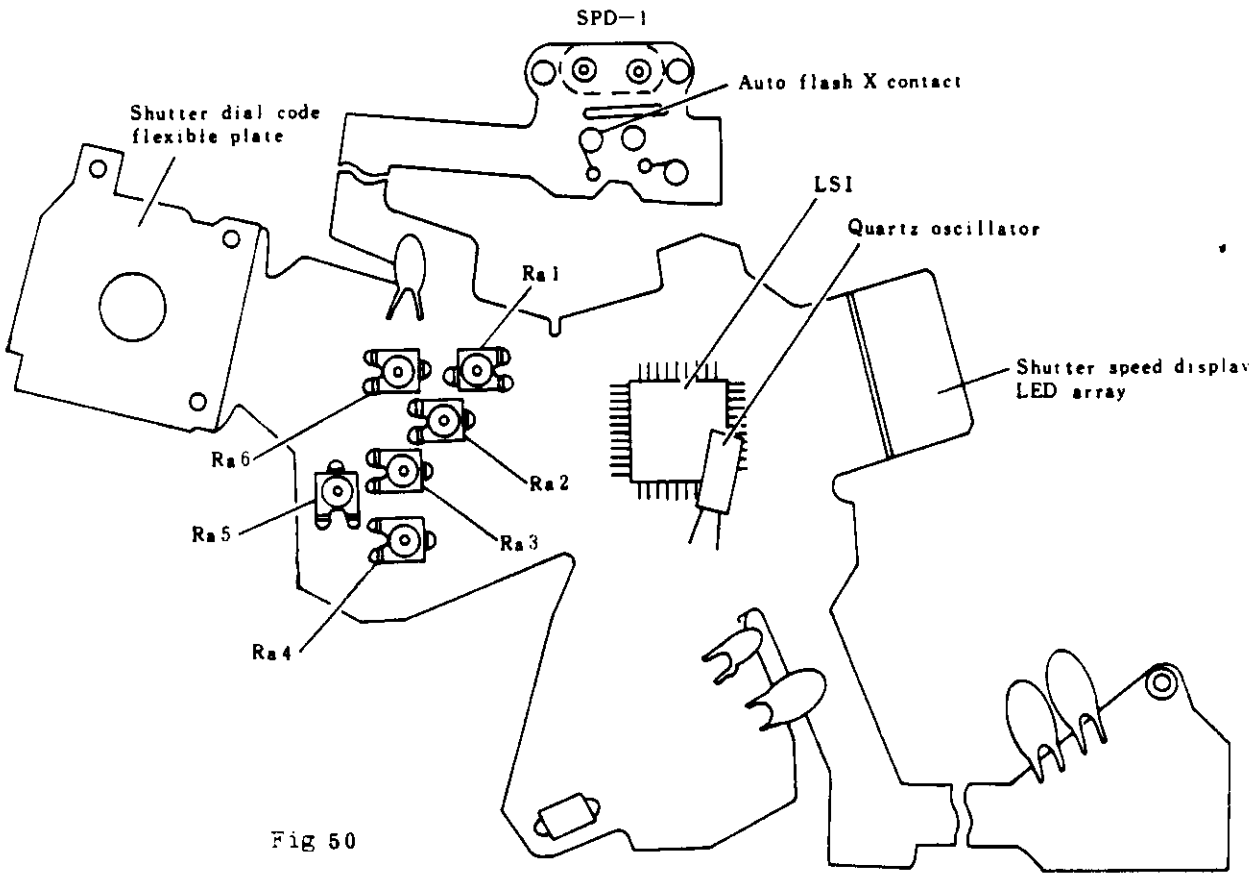


Fig 50

Ra1 for offset voltage adjustment.

Ra2 for Standard voltage adjustment.

Ra3 for Exposure adjustment.

Ra4 for Standard voltage for Flash Exposure adjustment.

Ra5 for Program curve adjustment.

Ra6 for Battery Check adjustment.

A) Offset Voltage Adjustment

1 Measurement should be made by exposing to light of more than LV1 ⁻.

2 Connect (-) of digital multimeter to Cothode side of SPD-1, (-) of digital multimeter to Anode side of SPD-1 and then read the voltage. See (Fig 51).
The Voltage should be 2 ~ 8mV
When the adjustment is required, adjust it with the semi-fixed resistor Ra-1.

Note : If maladjusted of Offset Voltage, it is uneveness of exposure when low (high) temperature or low (high) intensity.

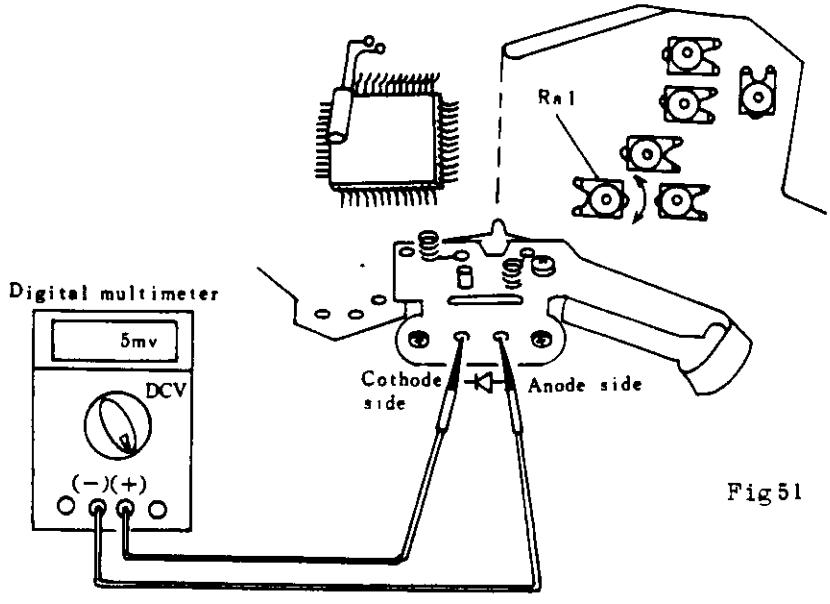


Fig51

B) Standard Voltage Adjustment

① Connect (+) of digital multimeter to Vr, (-) of digital multimeter to Vs, and then read the voltage. See (Fig 52).
The voltage should be 360 ±5mV
(Adjusting is done must be maintained at 25°C)
When the adjustment is required, adjust with the semi-fixed resistor Ra2.

Note : For temperature other than standard (25°C) as shown below.

t (°C)	20	21	22	23	24	25	26	27	28
Vr (mv)	354	356.2	356.4	357.6	358.8	360	361.2	362.4	363.6

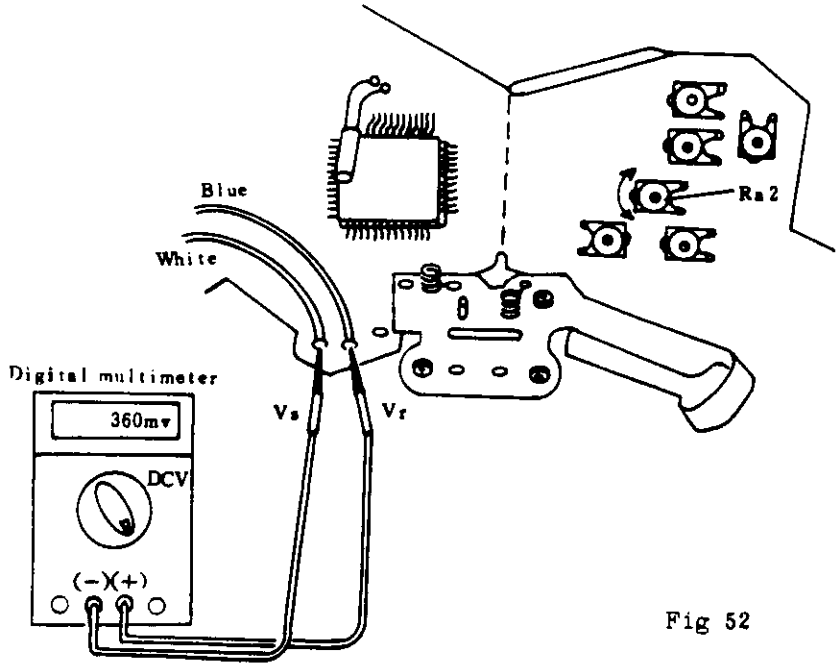


Fig 52

c) Standard Voltage for Flash Exposure Adjustment.

① Connect CK2 to GND as shown in (Fig 53).

② Set the position of ISO100.

③ Connect (+) of digital multimeter to Vth, (-) of digital multimeter to Vs, and then read the voltage. See (Fig 53).

The voltage should be 160 ±10mV

When the adjustment is required, adjust it with the semi-fixed resistor Ra4.

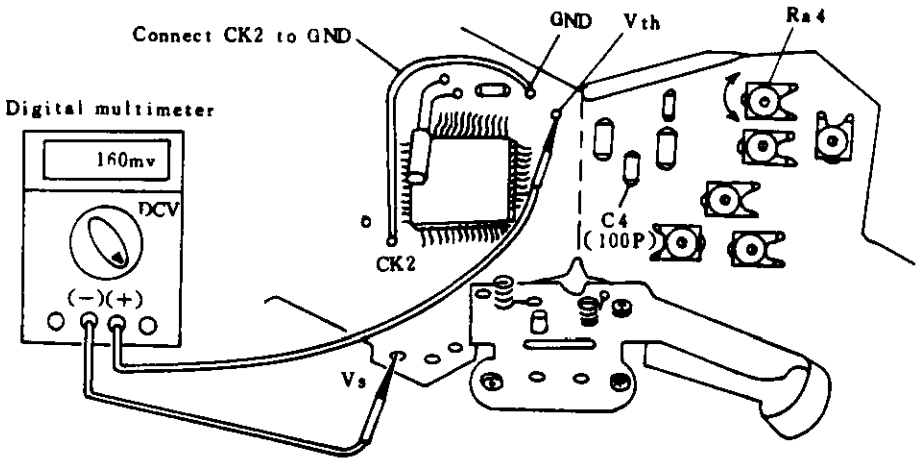


Fig 53

D) Battery Check Adjustment

< Battery Check >

Press the self-timer / battery check lever in direction of the arrow as shown in (Fig 54).

< Battery Check Adjustment >

1 Connect the camera body, Regulated DC Power Supply.

The adjustment should be performed while changing the Power Source voltage.

Power Soure Voltage	Performance of Battery Check LED
2.5 Volts	LED (red) lights up continuously
2.3~2.45 Volts	LED (red) lights flickeringly
Less than 2.25 Volts	LED (red) does not light at all

When the adjustment is required, adjust it with the Semi-fixed resistor Ra6.

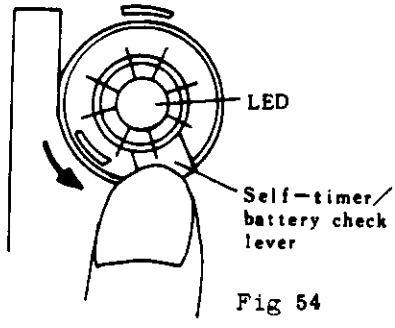


Fig 54

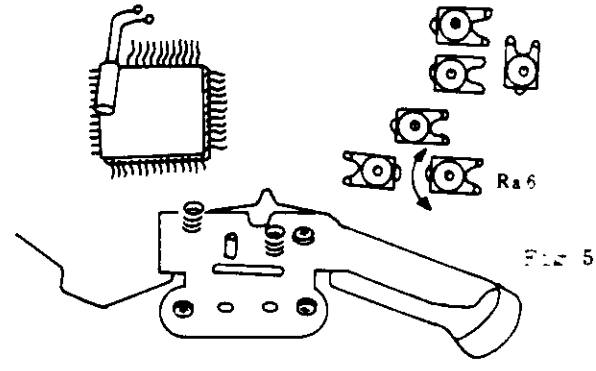


Fig 55

Note : a) Battery Check combines reset of circuit.

b) When battery voltage is not enough and LED is condition of fliker, shutter should be released on first time be shutter should not released on second time. (with reset of battery check, shutter should be released).

E) Battery Power Consumption

Conditions	Electric Current reading
Main Switch OFF	OA
Main Switch ON	Less than 10 A
S-LED light up or Shutt is functioned	Less than 8mA
While shutter is being fully opened at " B " mode setting	15~17mA

Connect the camera body, Regulated DC Power Supply at 2.8V and Ammeter.

F) Program Curve

Ra5 for adjustment of Program curve but you can not adjust Program curve. If move Ra5, it very hard to adjust withhout a measuring instrument, spare parts as well.

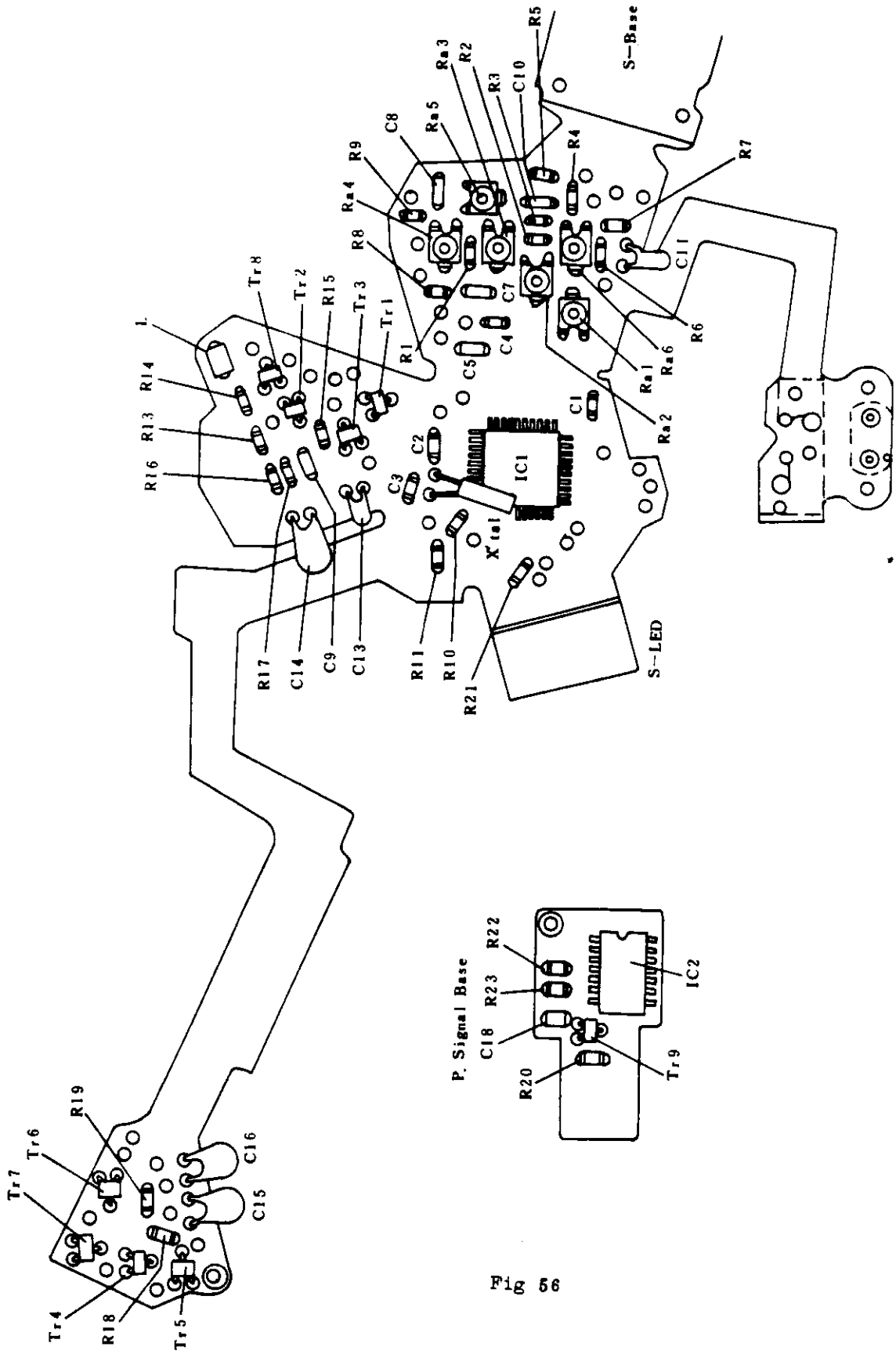

S-Base
R5
Ra3
R2
R3
C10
C8
Ra5
R4
R9
Ra4
R7
R8
C11
Tr8
Tr2
R15
Tr3
Tr1
L
R14
R13
R16
R1
C7
C4
C5
R6
Ra1
Ra6
C1
Ra2
C2
IC1
C3
Xtal
SPD 1
R17
C14
C9
C13
R11
R10
R21
S-LED
P. Signal Base
R22
R23
C18
R20
IC2
Tr9
R19
Tr6
Tr7
C16
C15
Tr4
R18
Tr5

Fig 56

Code	Standard	Performance
C1	47PF	Phase compensation
C2, C3	10PF	Standard oscillation at 32KHZ
C4	100PF	Flash light current intergration
C5	0.15μF	For double intergration
C7	1μF	For setting of Vmemo voltage hold time
C8	0.1 μF	Stability of Vs power (Oscillation prevention)
C9	0.1 μF	Set of power source stability time by initialis
C10	0.1 μF	Stability of Vr power (Oscillation prevention)
C11	0.1 μF	Stability of Vc power (Oscillation prevention)
C13	10 μF	Power soure filter (Stabitity of Vc power)
C14	100 μF	Power soure capacitor for R−Mg
C15	100 μF	Power soure capacitor for AC−Mg
C16	100 μF	Power soure capacitor for Mup−Mg
C18	0.1 μF	For P signal, flicker oscillation
Tr1	M6	For power hold (ON◀▶OFF SW)
Tr2	M6	D−LED drive control and R−Mg drive control
Tr3	UN2218	R−Mg drive control
Tr4	M6	AC−Mg drive control
Tr5	UN2218	AC−Mg drive control
Tr6	M6	Mup−Mg drive control
Tr7	UN2218	Mup−Mg drive control
Tr8	M6	ST−Mg drive control
Tr9	UN2217	P signal, control for flicker−light
R1	47KΩ	For adjustment of Vr power
R2	36KΩ	For adjustment of Auto exposure (LAD)
R3	62KΩ	Standard voltage for flash exposure adjustment
R4	36KΩ	For adjustment of program curve
R5	3KΩ	For adjustment of program curve
R8	3KΩ	V MEMO current limiting
R9	1.8MΩ	For compensation of aperture control mechanism delay at program
R10	47KΩ	Release current limiting
R11	47KΩ	Pull−up for Release SW
R12	180Ω	Self−LED current limiting
R13	68KΩ	Set of regulate time by initialize
R14	150Ω	Load resistance for B. C
R15	470Ω	D−LED current limiting
R16	1KΩ	Charge risistance of capacitor (C14) for R−Mg
R17	180Ω	Charge risistance of capacitor (C14) for R−Mg
R18	1KΩ	Charge risistance of capacitor (C15) for AC−Mg
R19	1KΩ	Charge risistance of capacitor (C16) for Mup−Mg

R20	470 Ω	" P " LED current limiting
R21	470 Ω	" ⚡ " LED current limiting
R22	10K Ω	For P signal, flicker oscillation
R23	1M Ω	For P signal, flicker oscillation
Ra1	100K Ω	For adjustment of off set voltage
Ra2	33K Ω	For adjustment of Vr−Vs voltage
Ra3	22K Ω	For adjustment of Auto exposure
Ra4	22K Ω	Standard voltage for flash exposure adjustment
Ra5	10K Ω	For adjustment of program curve
Ra6	22K Ω	For adjustment of B. C voltage
L	470μF	Filter of power soure
IC1		LSI (BI−CMOS)
IC2		For P signal, flicker oscillation
X'tal	.Quarte	Crystal oscillation

7. DISASSEMBLING OF THE PENTA PRISM AND FINDER FOCUS ADJUSTMENT.

(1) Disassembling of Penta Prism

a) Remove Four Penta Prism Holder Set Screws (63913026×4) and Penta Prism Holder Ass'y from the Mirror Box Ass'y.

〔Note for disassembling of the Penta Prism Holder Ass'y〕

Pay attention to the Focusing Adjusting Washers located between Penta Prism Holder Ass'y and Mirror Box.

b) Remove Penta Fixer Spring (139863), Penta Fixer (139862), Penta Cover (139861) With Moquette (147881).

c) Remove shielding adhesive from around the Penta Prism as shown in (Fig 58).

d) Remove Penta Prism.

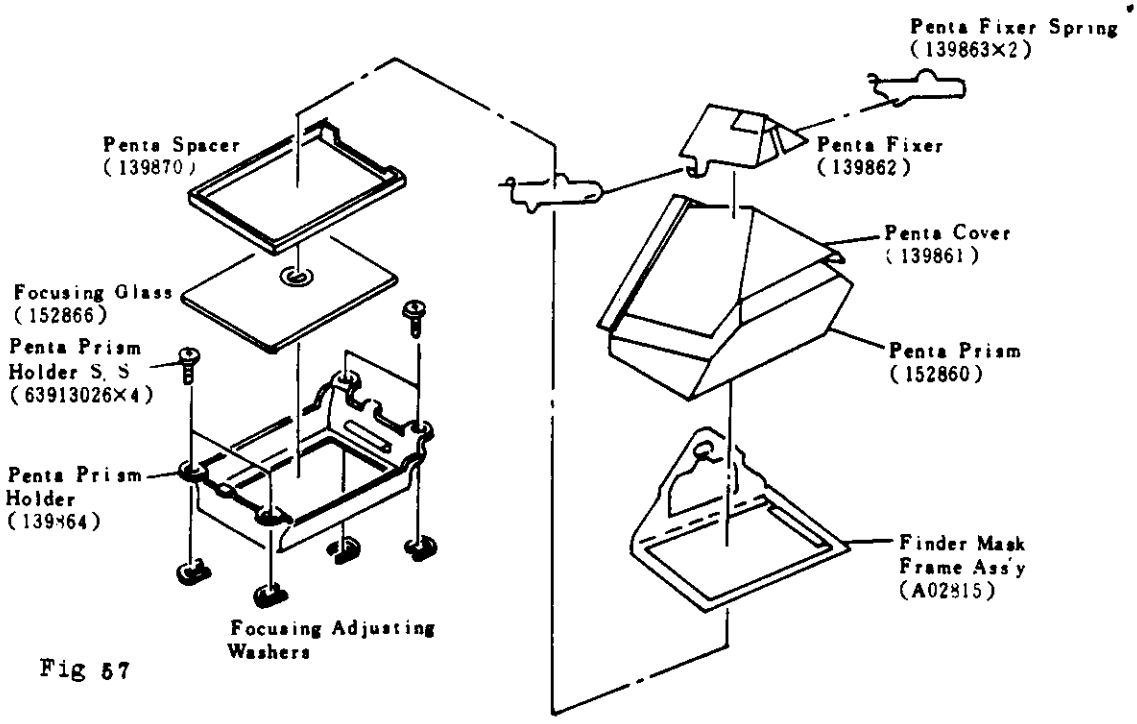


Fig 57

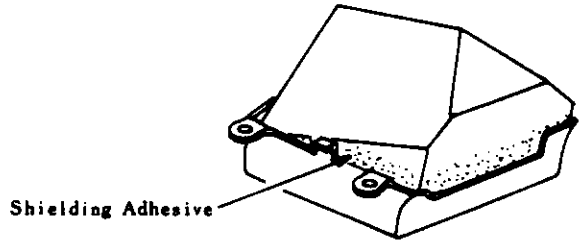


Fig 58

(2) Flange Back Distance Adjustment.

o Flange back distance from the Body Mount plane to film rail plane.

To adjust flange back, add or reduce washers.

TWo different thickness of adjusting washere are available.

0.05㎜ (128666), 0.02㎜ (128667).

$$45.42\ ^{+0.02}_{-0.03}\ \text{mm}$$

o Distance from the film plane to the Pressure plate rail plane.

$$0.2 \pm 0.02\ \text{mm}$$

(3) Finder Focus Adjustment.

Finder focus error can be determined by the positions of the infinity (∞) symbol and index line on the lens in use.

o **Rough adjustment of finder focus.**

When the finder focus error is out of " ±1/4 " range (Fig 59) adjust the finder focus by changing the Focusing Adjusting Washers (Fig 57).

Six different thickness of Focusing Adjusting Washers are available, therefore, select the proper one.

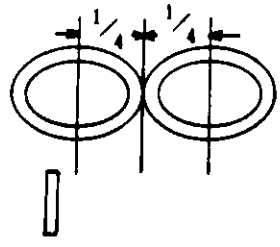


Fig 59

① When the focusing ring is turned and correct focus cannot be abtained at infinity, the finder-back is too long.

In this case reduce (lower) the position of the focusing screen.

② When correct focus can be obtaince when the focusing ring is truned to a position before infinity, the finder-back is too short.

In this case, increase (raise) the position of the focusing screen.

o **Fine adjustment of finder focus.**

When the finder focus error is within the " ± 1/4 " range (Fig 60) adjust by turning the Mirror Angle 45° Adjusting Screw (Fig 61). This adjustment can be performed from right side of the Mirror Box by removing the Front Leather Right and Focus Adjust Cover.

Note : a) Never turn the Mirror Angle 45° adjusting screw over $\frac{3}{4}$ revolution.

b) Operate the shutter release several times without fail after the fine adjustment of finder focus. Confirm the focus once more, and fix that screw with glue.

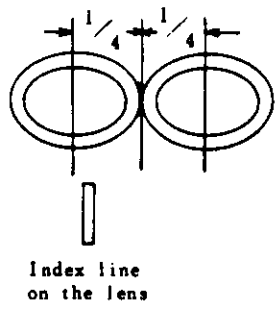


Fig 60

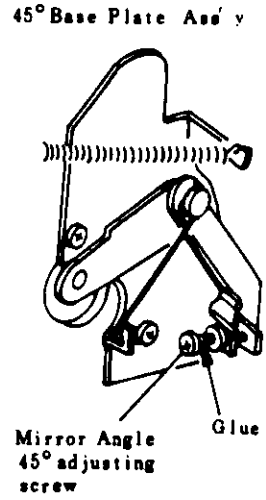


Fig 61

8. EXPOSURE ADJUSTMENT.

(1) Automatic Exposure Adjustment.

✸ You can adjust Auto Exposure finely within 1EV by turning ASA Contact Ass'y because Ra3 semi-fixed resistor is adjusted at factory.

① Set the EE Tester (Multi Camera Tester)·····ASA100, K=1.3.
② Remove the ASA Dial Cover (161432).
③ Set the camera to be tested·····Auto, ASA80, F5.6.
④ Loosen three ISO Dial Set Screws (63913022), and adjust Auto Exposure by changing the position of ASA Contact Ass'y (A02436). See (Fig 62)

Note : a) After changing the position of ASA Contact Ass'y, check Flash Exposure without fail.

b) After adjust by turning the Ra8 semi-fixed resistor, you must check of Program Exposure. If difference of Program Exposure for Auto Exposure. In this case, AVR Voltage is incorrect as shown in (Page 18).

Tolerance Limit

LV	EV Tolerance	S-LED display
LV 4	-0.5 ~ +0.5EV	2
LV 8	-0.5 ~ +0.5EV	1/8
LV12	-0.5 ~ -0.5EV	1/ 125
LV15	-0.6 ~ +0.6EV	1/1000

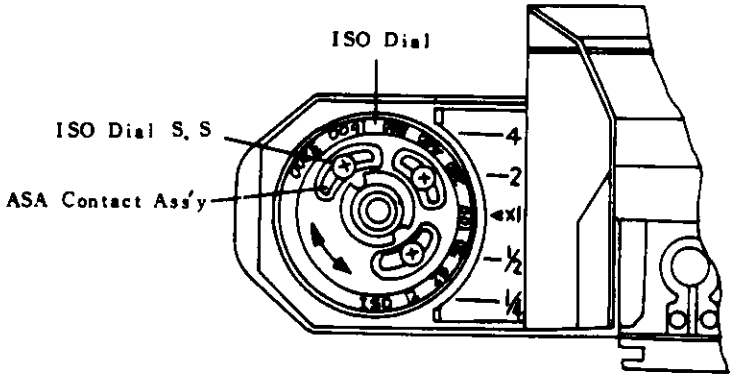


Fig 62

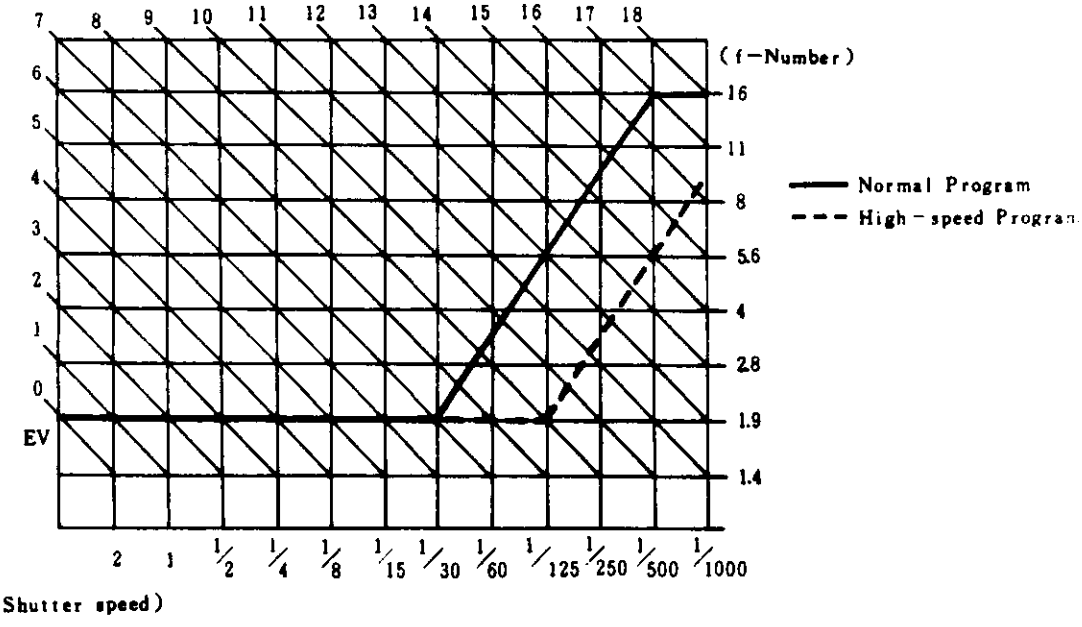
(2) Program Exposure.

<Program AE Mode>

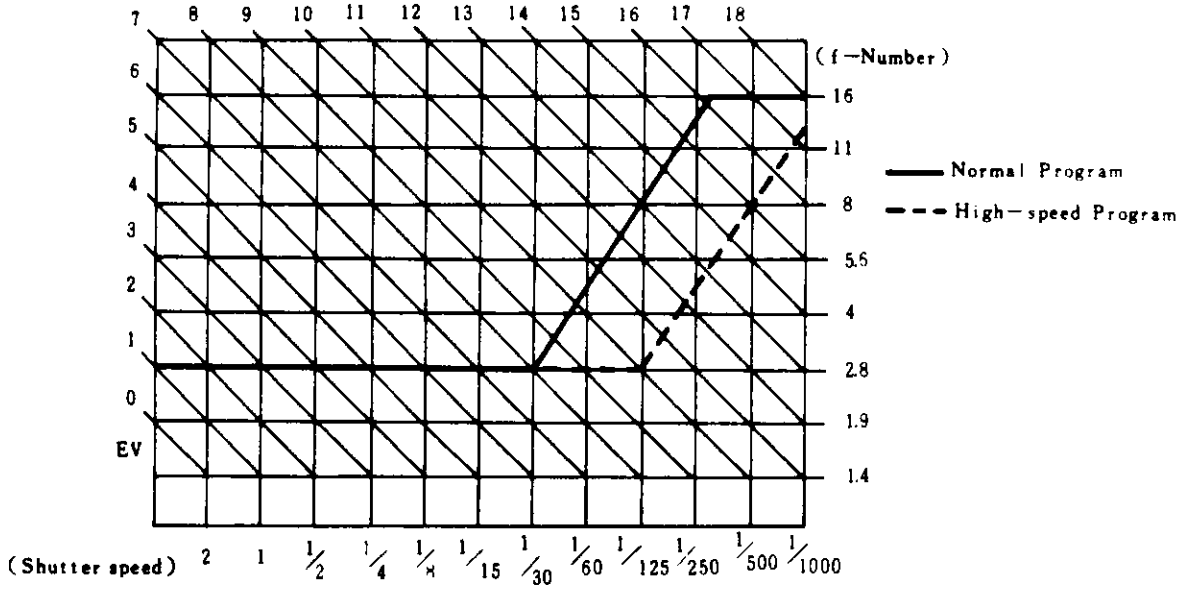
If you set shutter dial to P, circuit should be set P mode by mode selector. And then, film speed and minimum aperture signal are input after conversion as electric signal with each resistor. Under these conditions, if exposure measure circuit works by release switch, it should measure brightness of object, calculate aperture value according pre-setted program curve and memorize it. After then with release, automatic aperture control mechanism and its circuit should begin operation. On this time, change of aperture value should be measured and calcurated, and when that value should be is in accord with, aperture should be set with function of aperture control magnet (AC-Mg).
And at the same time with operation of mirror magnet (Mup-Mg), shutter speed should be calcurated and memorized according with re-measured volue again set aperture value, just instand aperture closed mesured volue. According this memorized should be finished.

<Program AE Control Scale>

The aperture and Shutter Speed combinations available in the " P " (Normal Program) and " HP " (High-speed Program) AE modes are as shown in the accompanying scale. The scale shown the curves plotted for varying aperture and shutter speed combinations when using a 50㎜ f/1.9 lens and set at f/16.



If a lens with a different maximum aperture is used, such as a 28 mm f 2.8 lens for example, it will be as shown below.



<Check of Program Exposure>

Set the EE Tester (Multi Camera Tester)·····ASA100, K=1.3

Set the camera to be tested·····P and HP AE Mode

ISO 80, MM or ML Lems, f/11.

Telerance Limit

LV	EV Tolerance
LV 4	−0.7 ~ +0.7EV
LV 8	−0.7 ~ +0.7EV
LV12	−0.7 ~ +0.7EV
LV15	−0.6 ~ +0.8EV

(3) Flash Exposure (Flash Out Put) Adjustment.

Flash Exposure can be checked by Flash Meter.

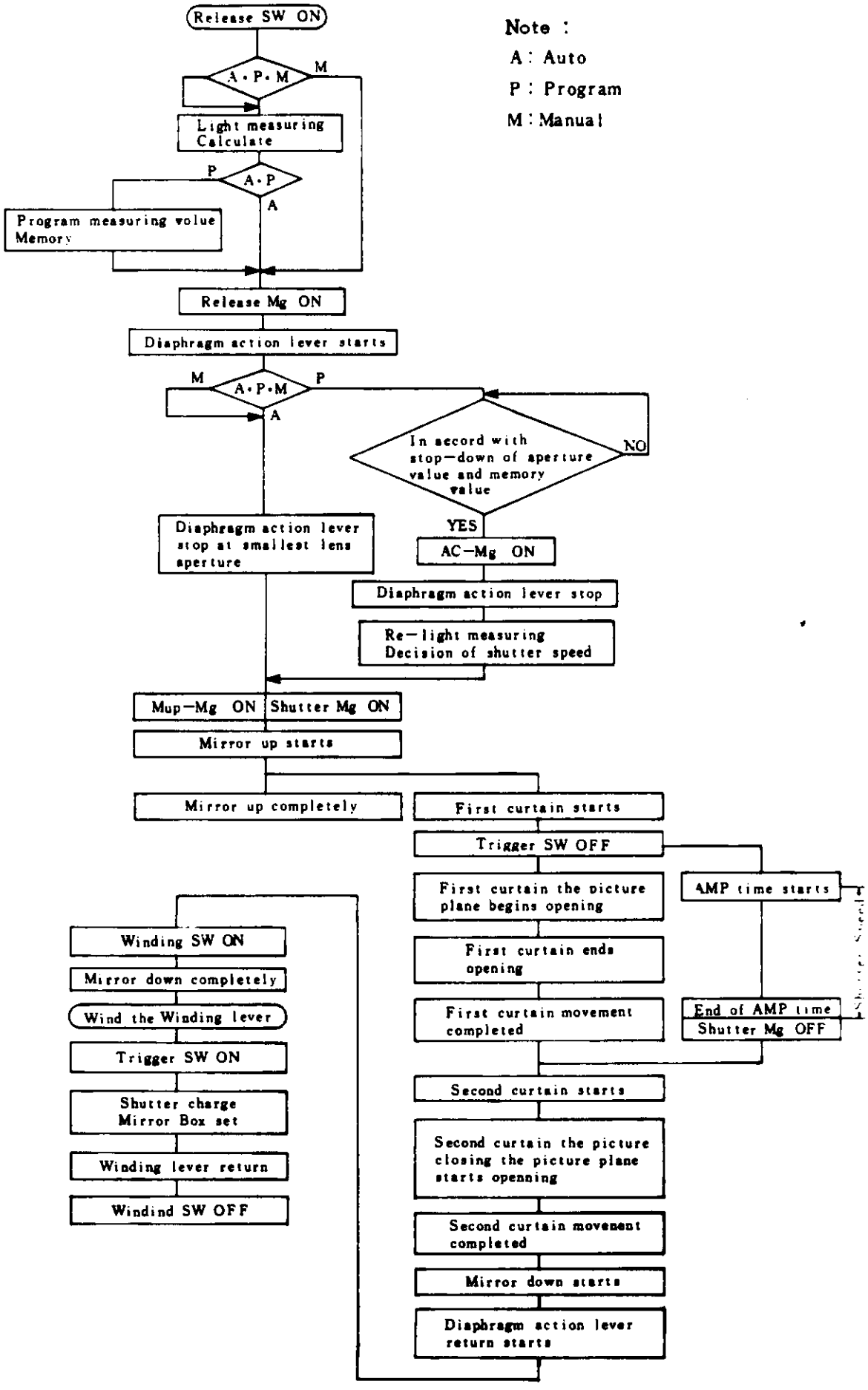
Adjust the Flash out put to ±0.5EV at ISO100, f/5.6 and the distance 2m by replacing C4 Capacitor as shown in (Fig 53).

(Use same type of Film as customer's when checking).

The following three kind of capacitor will be selected use when adjusting Flash Exposure.

139527	82PF
161522	100PF
139521	120PF

Flow Chart for FX-103 PROGRAM



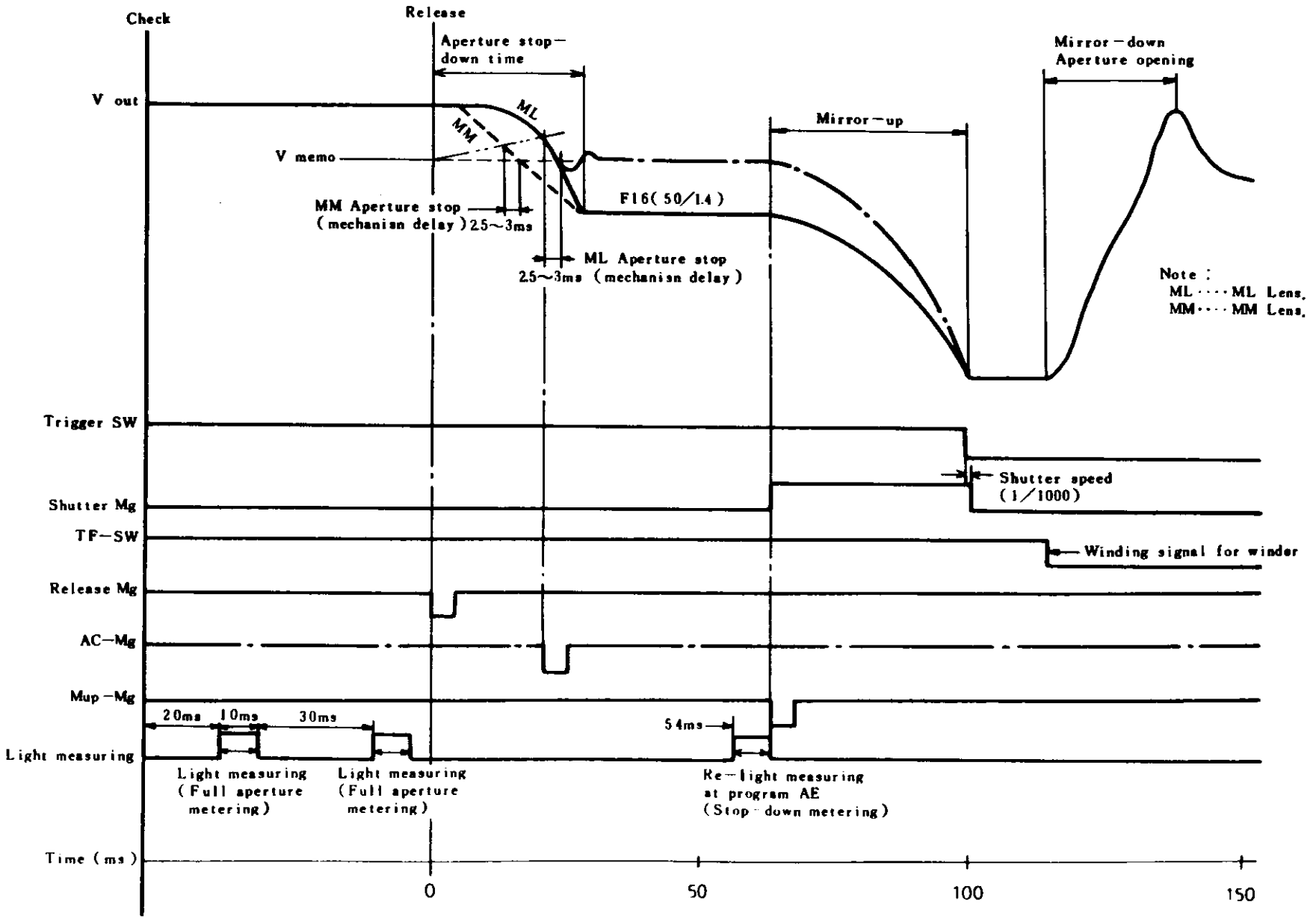
Note :

A : Auto

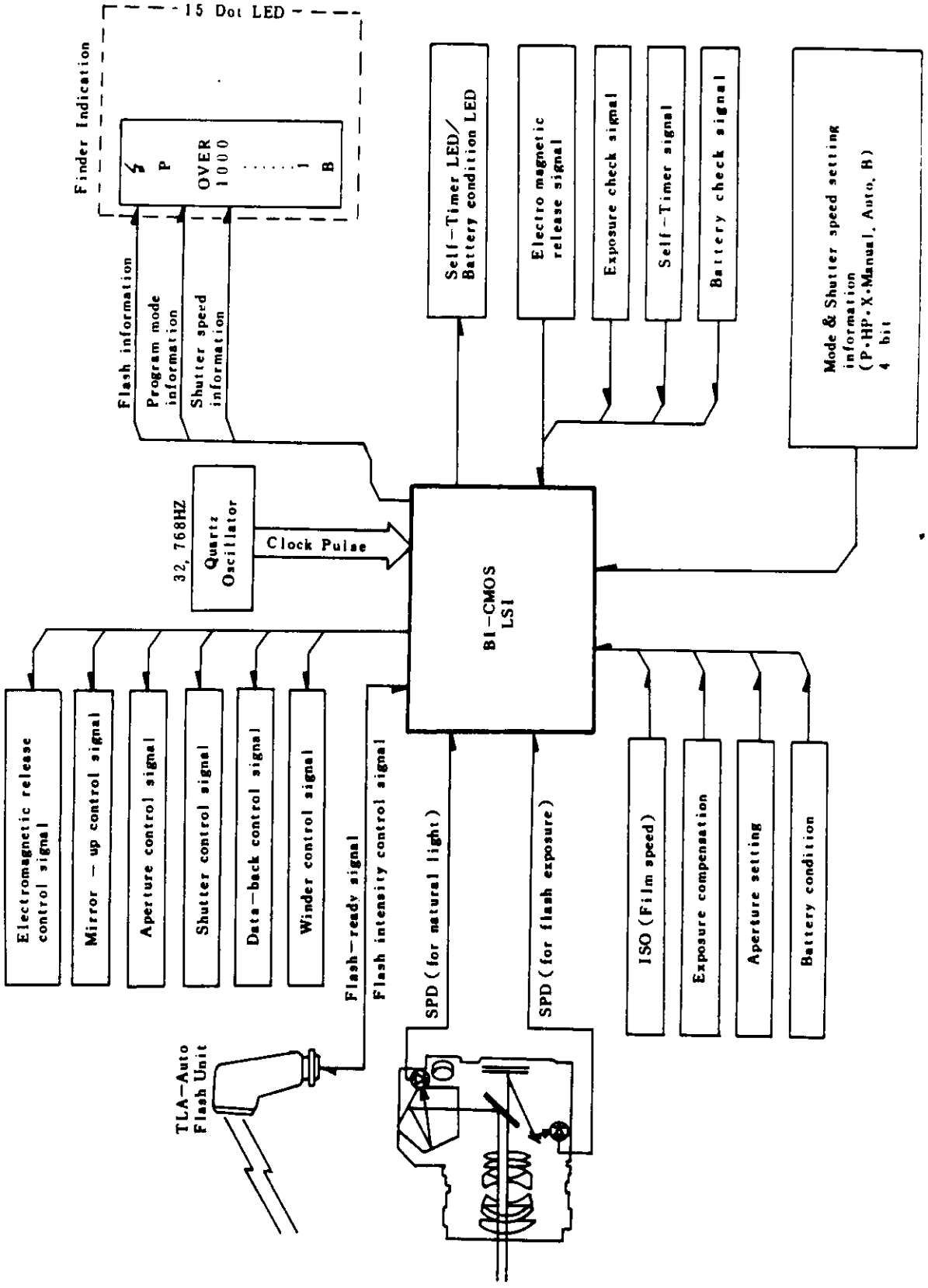
P : Program

M : Manual

Time Chart for FX-103 PROGRAM



FX-103 PROGRAM CIRCUIT DIAGRAM



WIRING DIAGRAM

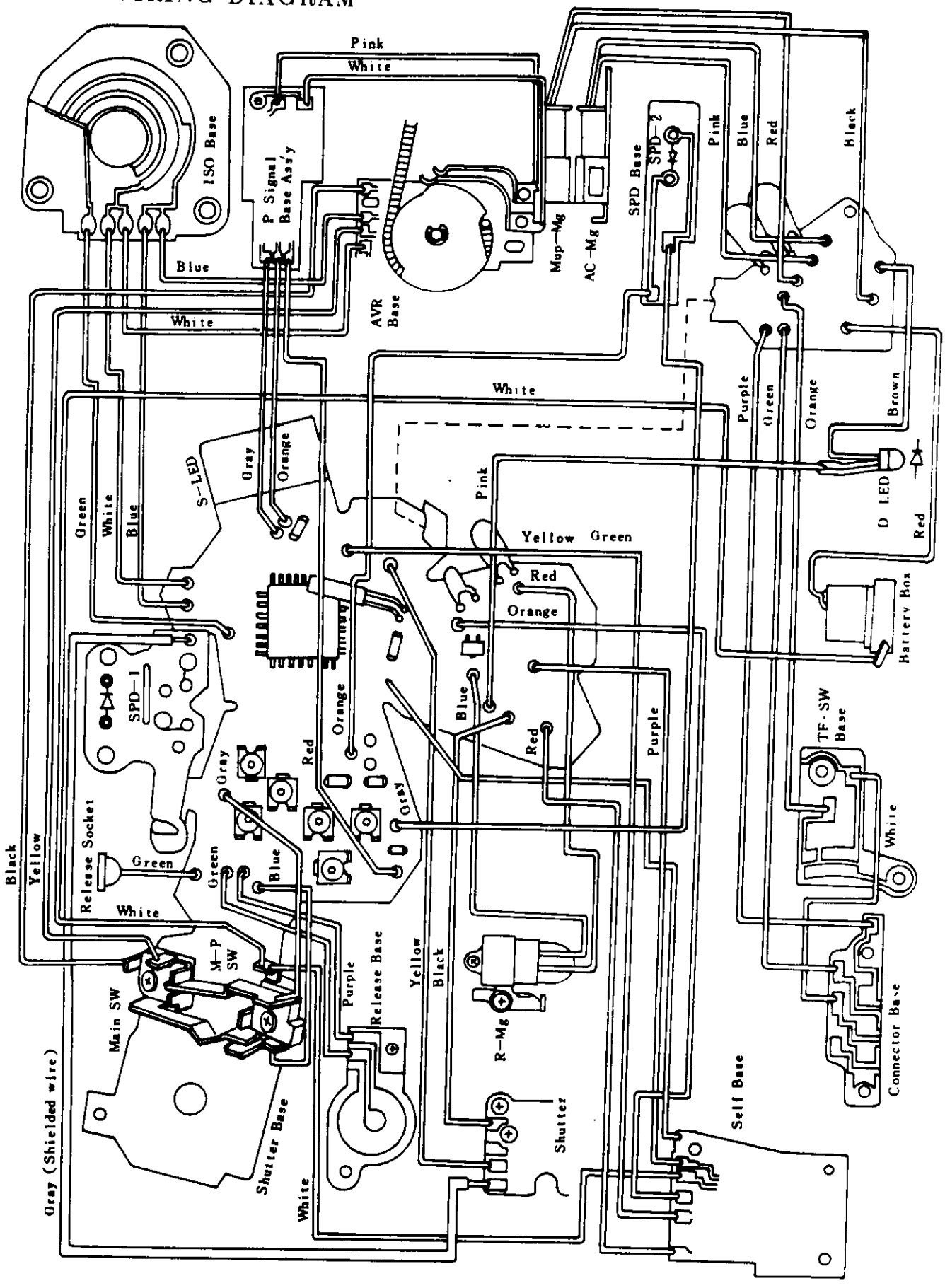


Fig 68

9. MALFUNCTION AND CAUSES.

Note :
D－LED＝Data Back LED
S－LED＝Shutter Speed LED

1 Shutter does not operate.

1－1) Shutter does not operate, but D－LED lights momentarily.

(1) Bad soldering of Red and Black lead wires (from Mup－Mg).

(2) Mup－Mg (159748) and Movable Plate (159749) is fouled.
Defective of Mup－Mg.

(3) Bad soldering of R19. Defective of R19.

(4) Bad soldering of C16. Defective of C16.

(5) Bad soldering of Tr6. Defective of Tr6.

(6) Bad soldering of Tr7. Defective of Tr7.

(7) Bad soldering of IC－1 terminal #32.

(8) Defective of Mirror Box mechanism.

- o Improper position of Mup－Mg as shown in (Fig 13).
- o Lack of ACL－6 hook (A02722) grease, this ACL－6 Ass'y is located on the AC Base Plate Ass'y.

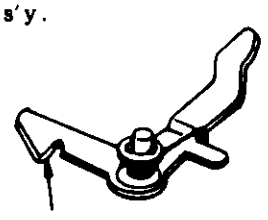


Fig 64

1－2) Shutter does not operate, S－LED light but D－LED does not light.

(1) Bad soldering of Green lead wire (from Release Base).

(2) Malcontact of W.Obstruction Lever Contact (074716).

(3) The W.Obstruction Lever malfunctions and W.Obstruction Lever can not be switched.

(4) Ground of TF－SW Base Set Screw may become loose.

(5) Bad soldering of Orange lead wire (from TF－SW Base).

(6) Malcontact of Trigger Switch.

(7) Bad soldering of Yellow lead wire (from Trigger Switch).

(8) Gray lead wire solder protuberance is high on the M－P Switch and touches the Top Cover Ass'y.

(9) Black lead wire solder protuberance is high on the M－P Switch and touches the Top Cover Ass'y.

(10) M－P Change Switch Set Screw (61914522) is overtightened and short circuit of M－P Contact (3).

(11) Bad soldering of R15. Defective of R15.

(2) Bad soldering of Tr2. Defective of Tr2.
(3) Bad soldering of IC-1 terminal #26, #34.
(4) Defective of shutter and Mirror Box mechanism.

1-3) Shutter does not operate and S-LED, D-LED do not light.
(1) Bad soldering of Red and White lead wires (from Battery Case).
(2) Plus contact of Battery Case is fouled or permanent set exists.
(3) Rivet on contact plate of Battery Case is loose.
(4) Malcontact of Main SW or Main SW is fouled.
(5) P.S Switch is fouled.
(6) Bad soldering of X'tal. Defective of X'tal.
(7) Bad soldering of C2 and C3. Defective of C2 and C3.
(8) Bad soldering of Tr1. Defective of Tr1.
(9) Bad soldering of L (470 F). Defective of L (470 F).
(10) Bad soldering of IC-1 terminal #23, #24, #28.

1-4) Shutter does not operate, the Mirror remains flipped up or Mirror has stopped part way when Shutter Release is depressed.
(1) Blue lead wire solder protuberance is high on the Main Switch and touches the Top Cover Ass'y.
(2) Bad soldering of Red and Blue lead wires (from R-Mg).
(3) Lack of R-Mg hook grease as shown in (Fig 14).
(4) Bad soldering of C14. Defective of C14.
(5) Bad soldering of R16. Defective of R16.
(6) Bad soldering of Tr3. Defective of Tr3.
(7) Defective of Mirror Box mechanism.

1-5) Shutter does not operate when Battery LED lighs flickeringly conditions when powe soure voltage is 2.8V.
(S-LED light but D-LED does not light).
(1) Kathode of SPD-2 solder protuberance is high and touches the ACL - - Ass'y (A02715).
(2) Short circuit of ST-Mg wire and camera body.
(3) Black lead wire of ST-Mg is short circuited to Screw on shutter circuit board.
(4) Short circuit between printed circuit patterns at the soldered joint part of AMP Ass'y and Shutter Base.
(5) Defective of IC-1.

1-6) Shutter does not operate and D-LED continuously lights.

(1) AMP Ass'y Set Screw (63912522) become loose at the bottom of the camera body.

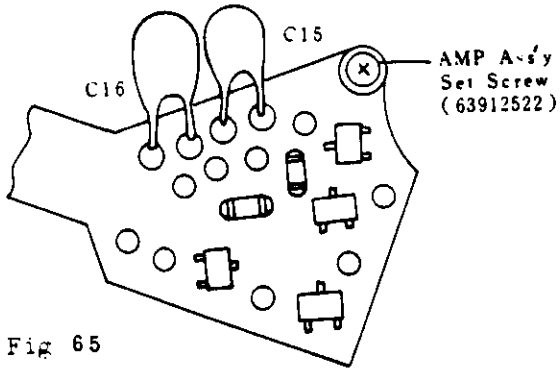


Fig 65

1-7) Shutter does not operate with Winder.

(Before starting repair, check the Winder thoroughly).

(1) Malcontact of W.Obstruction Lever contact.

(2) Pattern of Connector Base (156540) is fouled.

(3) Bad soldering of White lead wire on the Connector Base and TF-SW Base.

2 Shutter trips itself after winding.

2-1) Shutter trips itself after winding.

(1) Bad soldering of R10. Defective of R10.

(2) Bad soldering of R11. Defective of R11.

2-2) Mirror remains flipped up when winding.

(1) Magnetic force of Mup-Mg is getting weak.

(2) Defective of Mirror Box mechanism.

3 Incorrect Shutter Speed.

3-1) Shutter runs but does not open at all modes.

(The film is not exposed occasionally or always).

(1) Bad soldering of Black lead wire (from Shutter Mg)

(2) Bad soldering of wire of Shutter Mg.

(3) Defective of Shutter Mg.

(4) Bad soldering of Tr8 (collector). Defective of Tr8.

(5) Bad soldering of IC-1 terminal #31.

3-2) Shutter remains open.

(1) Trigger Switch is kept " ON ".

(2) Defective of Tr8 (short circuit between Tr8 emitter and base).

(3) Short circuit between pattern of Trigger Switch and capacitor on the Shutter circuit board.

3-3) Shutter speed is incorrect.

(1) Improper adjustment of Trigger Switch.

3-4) Shutter speed is incorrect and the S-LED in wrong position.

(1) Improper contact of Shutter Dial Base Ass'y (A02403).

(2) Bad soldering of soldered joint part of AMP Ass'y and Shutter Base.

(3) Bad soldering of IC-1 terminal ⌀17 to ⌀20.

3-5) Sometimes excessive shutter speed.

(1) Defective of Mup-Mg.

3-6) Shutter speed is not stable.

(1) Rivet on Trigger Switch is loose.

(2) Defective of Shutter.

4 Auto Exposure and Program Exposure is incorrect.

4-1) Extemely under-exposed at Auto mode and Program mode, " OVER " LED remains lit.

(1) Malcontact of ASA Contact (A02436).

(2) Bad soldering of Green lead wire (from ISO Base).

(3) Malcontact of AVR Contact.

(4) Bad soldering of White, Blue, Yellow lead wires (from AVR Base).

(5) Defective of M-P Switch.

(6) Short circuit of Shutter Dial Contact.

(7) Bad soldering of Gray lead wire on the M-P Contact (1).

(8) Bad soldering of Blue lead wire on ISO Base (" OVER " LED remains lit at Auto mode and " 1/500~1/1000 LED remains lit at P mode).

(9) Short circuit of IC-1 terminal ⌀55 and ⌀56.

4-2) Extemely over-exposed at Auto mode and Program mode, " B " LED remains lit.

(1) Bad soldering of Ra3. Defective of Ra3.

(2) Bad soldering of Ra2. Defective of Ra2.

(3) Bad soldering of SPD-1.

(4) Bad soldering of IC-1 terminal ⌀6.

4-3) Incorrect Exposure at Auto mode and Program mode.

(1) Standard voltage is incorrect. (adj. Ra2 to 360mv).

(2) Offset voltage is incorrect (adi. Ra1 to 3~7mv).

(3) Exposure is incorrect. (adj. Ra3).

(4) Defective of ISO Resistor Base.

(5) AVR voltage is incorrect as shown in (page 13).

(6) Leak of SPD-1.

4-4) Program Exposure is incorrect.

(1) Bad soldering of Black lead wire (from AVR Base).

(2) Bad soldering of Pink, Blue lead wires (from AC-Mg).

(3) Malcontact of M-P Switch.

(4) Bad soldering of Gray lead wire (from M-P Switch).

(5) Bad soldering of R18. Defective of R18.

(6) Bad soldering of Tr4. Defective of Tr4.

(7) Bad soldering of Tr5. Defective of Tr5.

(8) Bad soldering of C15. Defective of C15.

(9) Bad soldering of C7. Defective of C7.

(10) Bad soldering of R8. Defective of R8.

(11) Bad soldering of R9. Defective of R9.

(12) Bad soldering of C11. Defective of C11.

(13) Lack of AC-Mg adjust screw grease as shown in (Fig 12).

(14) Defective of AC-Mg.

(15) Bad soldering Ra5. Defective of Ra5.

(16) Bad soldering of IC-1 terminal #9, #33.

(17) Malcontact of Shutter Dial Base Contact.

(18) Defective of AC Base Plate Ass'y mechanism.

4-5) Extemely under-exposed at Auto mode, " B " LED remains lit.

(1) Bad soldering of Ra1. Malcontact of Ra1.

(2) Bad soldering of Ra2. Malcontact of Ra2.

(3) Short circuit of IC-1 terminal #53 and #52.

(4) Short circuit of IC-1 terminal #55 and #56.

5 Defective flash photography. (With CS-203 or TL A flash unit).

5-1) Shutter speed does not change to the sync. speed after flash is charged.

(1) Shoe spring does not connect properly to the Top Cover.

(2) Bad soldering of IC-1 terminal #52.

5-2) Does not regulate the Flash out-put.

(1) Bad soldering of Shielded wire (from Shutter).

(2) Bad soldering of Gray, Orange lead wires (from SPD Base).

(3) Defective of Shoe Contact Ass'y (A02125) of Top Cover.

(4) Shoe spring does not connect properly to the Top Cover.

(5) Standard Voltage for Flash Exposure is incorrect (adj. Ra4 to 160mv).

(6) Defective of Synchro contact.

(7) Bad soldering of Ra4. Defective of Ra4.

(8) Bad soldering of C4. Defective of C4.

(9) Bad soldering of R3. Defective of R 3.

(10) Bad soldering SPD-2. SPD-2 polarity inversion.

(1) SPD Mirror tension angle defective.

(2) Bad soldering of IC－1 terminal ⇄7, ⇄8 and ⇄10 to ⇄12.

6 Defective Viewfinder Display.

6－1) Shutter Dial and Shutter LED do not interlock.

(1) Malcontact of Shutter Dial Base Contact.

(2) Bad soldering of IC－1 terminal ⇄17 to ⇄20.

(3) Bad soldering of soldered joint part of Shutter Base and FPC.

6－2) Shutter LED does not light (B～OVER).

(1) Bad soldering of soldered joint part of S－LED and FPC.

(2) Bad soldering of IC－1 terminal ⇄37 to ⇄48.

(3) Defective of S－LED.

6－3) Shutter LED remains lit, more than two LEDs light at the same time, or wrong indication of Shutter LED.

(1) Malcontact of Shutter Dial Base Contact.

(2) Short circuit of soldered joint part of Shutter Base and FPC.

(3) Short circuit of IC－1 terminal ⇄41 and ⇄42.

(4) Short circuit of Blue and White lead wires on the ISO Base.

(5) Malcontact of ASA Contact.

(6) Bad soldering of R4. Defective of R4 (At P, HP mode).

6－4) ⚡ LED does not light (with CS－203 or TLA flash unit).

(1) Bad soldering of R21, Defective of R21.

(2) Shoe spring does not connect properly to the Top Cover.

(3) Bad soldering of solder joint part of S－LED and FPC.

(4) Defective of S－LED.

6－5) P LED does not light at Program mode.

(1) Malcontact of Shutter Dial Base Contact.

(2) Improper soldering of Red and Gray lead wires (from P Signal Base Ass'y).

(3) Bad soldering of Red, Gray and Orange lead wires (from P Signal Base Ass'y).

(4) Bad soldering of R22. Defective of R22.

(5) Bad soldering of R20. Defective of R20.

(6) Bad soldering IC－1 terminal ⇄39.

(7) Defective of P Signal Base Ass'y.

6－6) P LED continuously pulsates at minimum aperture setting.

(1) Malcontact of P Warning Switch as shown in (Fig 19).

(2) Bad soldering of Pink and White lead wires on the P Signal Base Ass'y

(3) Defective of P Signal Base Ass'y.

6-7) P LED does not pulsate at F 5.6 to F 1.4 aperture setting.

(1) P Warning Switch is kept " ON ".

(2) Deviation of AVR Spring Suppoter as shown in (Fig 18).

(3) Short circuit of Gray and Orange lead wires on the P Signal Base Ass'y.

(4) Bad soldering of C18. Defective of C18.

(5) R12 solder protuberance is high on the P Signal Base Ass'y and touches the S-LED Adjusting Screw.

(6) Defective of P Signal Base Ass'y.

7 Self-timer does not work properly and Battery Check LED does not light.

❖ The self-timer will not function when the Shutter control dial is set at " B ".

7-1) Self-timer does not work or can not cancel.

(1) Malcontact of Self Switch.

(2) Bad soldering of Orang, Black lead wires (from Self Base).

(3) Improper soldering of White and Orang (from Self Base).

(4) Defective of Self Base.

(5) Bad soldering of IC-1 terminal =25.

7-2) Self-timer LED does not light.

(1) Bad soldering of Yellow Green and Red lead wires (from Self Base).

(2) Bad soldering of R12 on the Self Base.

(3) Bad soldering of Self LED. Defective of Self LED.

(4) Bad soldering of IC-1 terminal =29.

7-3) Self-timer continuously work.

(1) Short circuit of Purple and White lead wire on the Self Base.

(2) Self Switch is kept " ON ".

7-4) Battery check LED does not light.

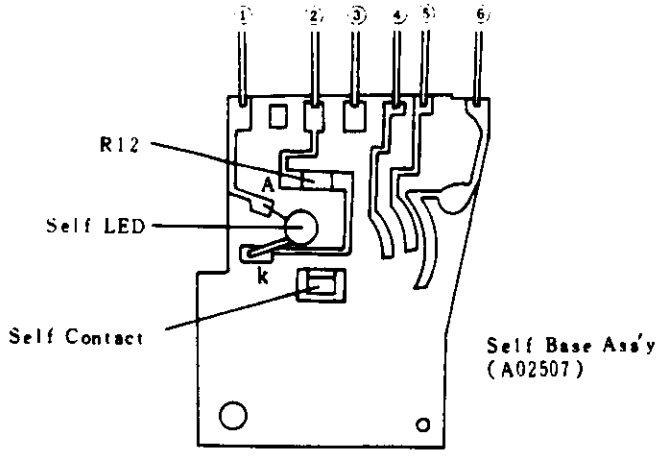
(1) Bad soldering of Purple, White and Black lead wires (from Self Base

(2) Bad soldering of IC-1 terminal #3().

7-5) Battery check LED does not pulsate at 2.5 Volts.

(1) Bad soldering R14. Defective of R14.

(2) Bad soldering Ra5. Defective of Ra5.



① Red lead wire (VDD)
② Yellow Green lead wire (Self LED)
③ Orange lead wire (Self timer)
④ White lead wire (−)
⑤ Purple lead wire (B, C)
⑥ Black lead wire (GND)

Fig 66